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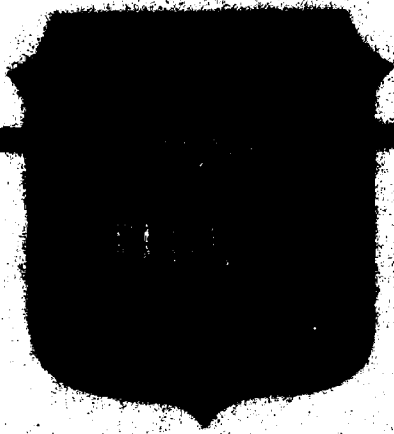
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JUNE 1982

THE ARMY'S PENNY-WISE, POUND-FOOLISH PUBLICATIONS SYSTEM:

A PRESCRIPTION FOR CHANGE

by

LIEUTENANT COLONEL RAYMOND F. MILNER, JR.
INFANTRY

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→ savings approaching 91% of present cost. The study advocates immediate action to establish a publications policy that balances service between the needs of proponents, publishing agents, and consumer-units. It identifies the development of a contracted, electronic composition-assisted, integrated production system and the ultimate substitution of a throw-away publications and indirect costs. The study makes first published use of The Watson Cycle, an observed phenomenon involving informational disconnects that are catalyzed in large bureaucracies, notably the U.S. Army, by unservicable regulation publishing arrangements.

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USAWC MILITARY STUDIES PROGRAM PAPER

THE ARMY'S PENNY-WISE, POUND-FOOLISH PUBLICATIONS SYSTEM:

A PRESCRIPTION FOR CHANGE

INDIVIDUAL STUDY PROJECT

by

Lieutenant Colonel Raymond F. Milwee, Jr.
Infantry



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US Army War College
Carlisle Barracks, Pennsylvania 17013
7 June 1982

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AUTHOR(S): Raymond F. Milwee, Jr., LTC, IN

TITLE: The Army's Penny-Wise, Pound-Foolish Publications System: A Prescription for Change

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This study is about the impact on the Army that results from the process it uses in publishing regulatory publications. Using 1981 Distribution A + B activity measurements, the study provides insights on manpower burdens, systemic time lapses, direct and buried costs and alternatives for relief from adverse conditions produced by the process. It demonstrates that the cost of publishing small unit regulations is nearly \$55,000,000 per year, 94% of which is shown to be unmanaged. The study indicates change for a savings approaching 91% of present cost. The study advocates immediate action to establish a publications policy that balances service between the needs of proponents, publishing agents, and consumer-units. It identifies the development of a contracted, electronic composition-assisted, integrated production system and the ultimate substitution of a throw-away publications format as the most economical and most available means of reducing direct and indirect costs. The study makes first published use of "The Watson Cycle", an observed phenomenon involving informational disconnects that are catalyzed in large bureaucracies, notably the U. S. Army, by unservicable regulation publishing arrangements.

Frontispiece --

An allegory on "The Titanic's Encounter with an Iceberg".

In the drawing, icebergs (representing the various major publication series which are part of the Army's publication activity) have chipped off of the great polar ice cap (bureaucratic imperatives of the establishment) and they have been set in motion in the North Atlantic shipping lanes by two counter-directed ocean currents (centralization and decentralization.) The great ship (the make-up of Army units) routinely steams its course (a multi-dimensional path of time and other resources within the limits of which the expectation is that the performance objective can be reached) to New York. The vacant sea, of course, stands in the allegory as the idealized environment in which ships are thought to work.

PREFACE

In the mid-1960's one of my civilian job responsibilities was to manage part of the publishing operations of a large non-profit organization. In handling one especially difficult and expensive directory, I decided to gamble on some new British-invented electronic composition technology to totally integrate into one ad hoc system, the preparation, indexing, composition, pagination and distribution management of that book. My aim was to reduce work, save on direct expenses, reduce the subscriber cost and speed-up production turn-around. In the end, all of those goals were realized and an important, if unheralded, publishing "first" had occurred in this country.

A few years later, in my capacity as a career reservist, I realized for the first time the actual burden faced by anyone who is so unfortunate as to be responsible for establishing and maintaining a library of Army Regulations. Thereafter, my earlier civilian publishing experience led me to challenge and make observations about the evident logic on which the Army's regulation process seems to be based: Save Paper and Printing, Time is Free.

Having chafed with this since about 1970 -- with no realistic outlet at hand -- I am grateful to the Army War College for allowing me the time to organize and present my views in this study.

I have enjoyed complete support from every person from whom I have sought assistance -- and they are many, both at the War College itself and throughout The Adjutant General Publications Directorate. Although I have severely limited the content of my work, the only restriction placed on me has been the availability of time and the actual existence of data. Believe me, those hurdles were quite enough.

For their strong support, I am particularly indebted to Colonel Sally Groome, my War College Faculty Advisor, and to Colonel Steve Heller, my Military Study Advisor, who also is Director, AG Publications Directorate.

For his early encouragement to undertake this study, but especially for his example in the manner of presenting conclusions, I am directly indebted to my former colleague in civilian life, Dr. Norman B. Ture, now Undersecretary of the Treasury for Tax and Economic Policy.

My work has benefited enormously from discussions with Mr. Roger McBride, USAWC Library; from contributions by Mr. Hugh Kent and others in the Publishing Services Branch, Internal Revenue Service; and from the extraordinary cooperation of Mr. Ronald Beres and the R. R. Donnelley & Sons Company.

It is my great pleasure to note that my earliest thoughts on this topic resulted directly from discussions with WO-4 Bernard Norris, my colleague at Headquarters, 97th U. S. Army Reserve Command.

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INTRODUCTION

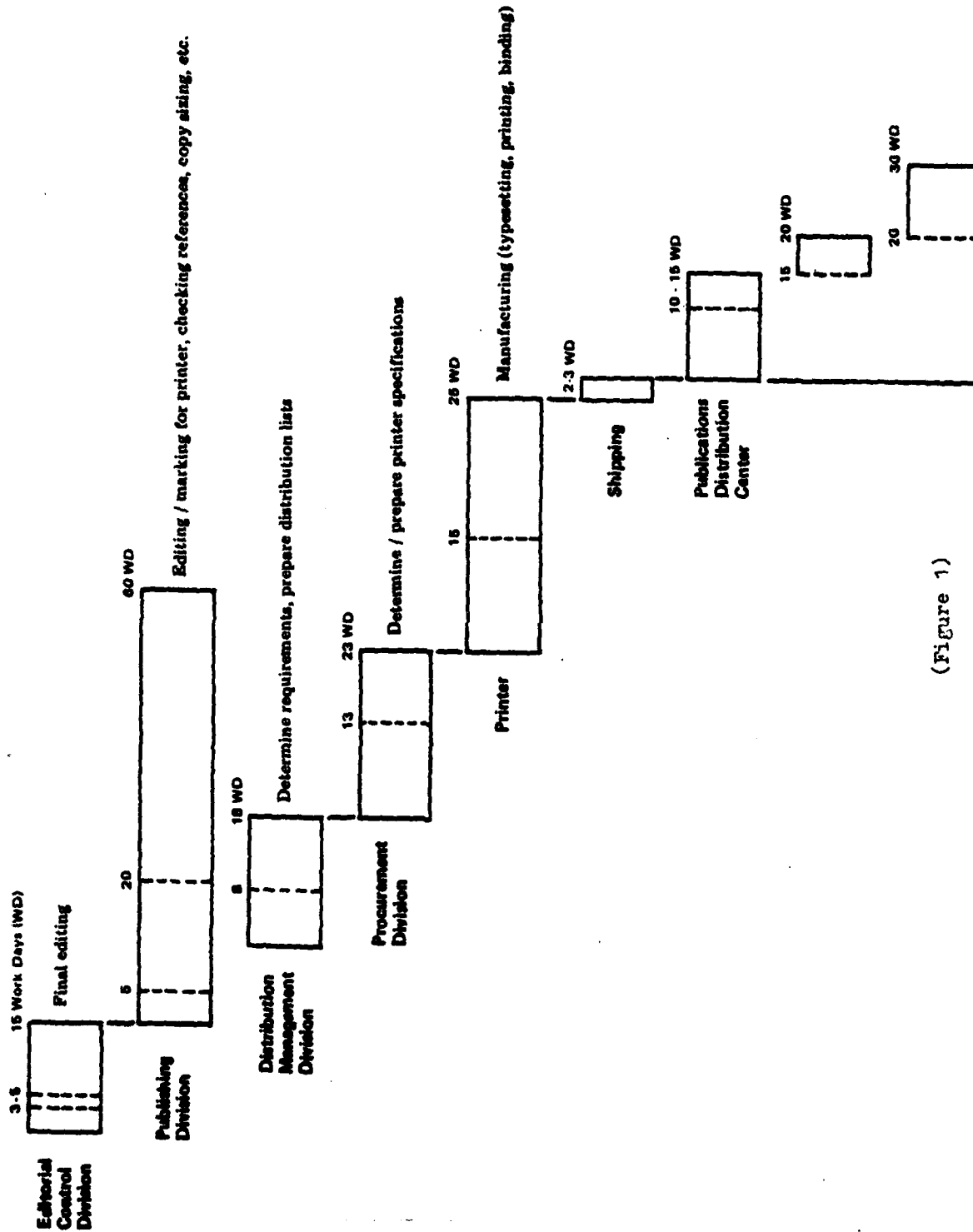
In the commercial publishing world, authors, publishers and consumers have distinctly set roles. Each is able to impose on the others an obligation to meet a certain performance standard. An author can choose not to use a particular publisher, a publisher does not have to carry a title, and a customer certainly does not have to accept an inferior product or service. At the very least, an acceptable economic arrangement must be achieved.

In contrast, the Army not only publishes Army Regulations, but also acts as its own author and consumer. Because the Army's critical economic decisions are made at the top, those who function within its publishing system have no choices about doing business with each other. Thus, the natural checks and balances which produce sense in ordinary publishing activities are not alive in the Army. In such a circumstance, a strong, well-respected policy would be the only possible substitute for the natural pressures which ordinarily encourage overall excellence in the relations between author, publisher and consumer roles.

Any dispassionate reckoning of the status quo urges that no Army policy now exists for the purpose of achieving necessary balance in its publishing system. But, if only in the interest of small Army units, there should be one. Indeed, the resource impact assessment now required under AR 310-3 appears to completely ignore the impact of the publishing process, per se.

A reading of AR 310-3 reveals that The Adjutant General is not positioned to cover this need. Any standards for the Army's total publishing system would have to originate with someone who has cognizance over all writers, the publishing agents, and consumers alike. Clearly, The Adjutant General's

Publications Processing System
(64 pages, 30,000 copies, typeset and printed)



(Figure 1)

role has been established to cover only technical publishing and authentication requirements, not to set or to enforce policy for the substance and total form of the system that he administers. However, The Adjutant General can contribute to improved system-wide efficiency and can become more effective in his publishing role by altering some systemic or habitual patterns over which he does have real authority.

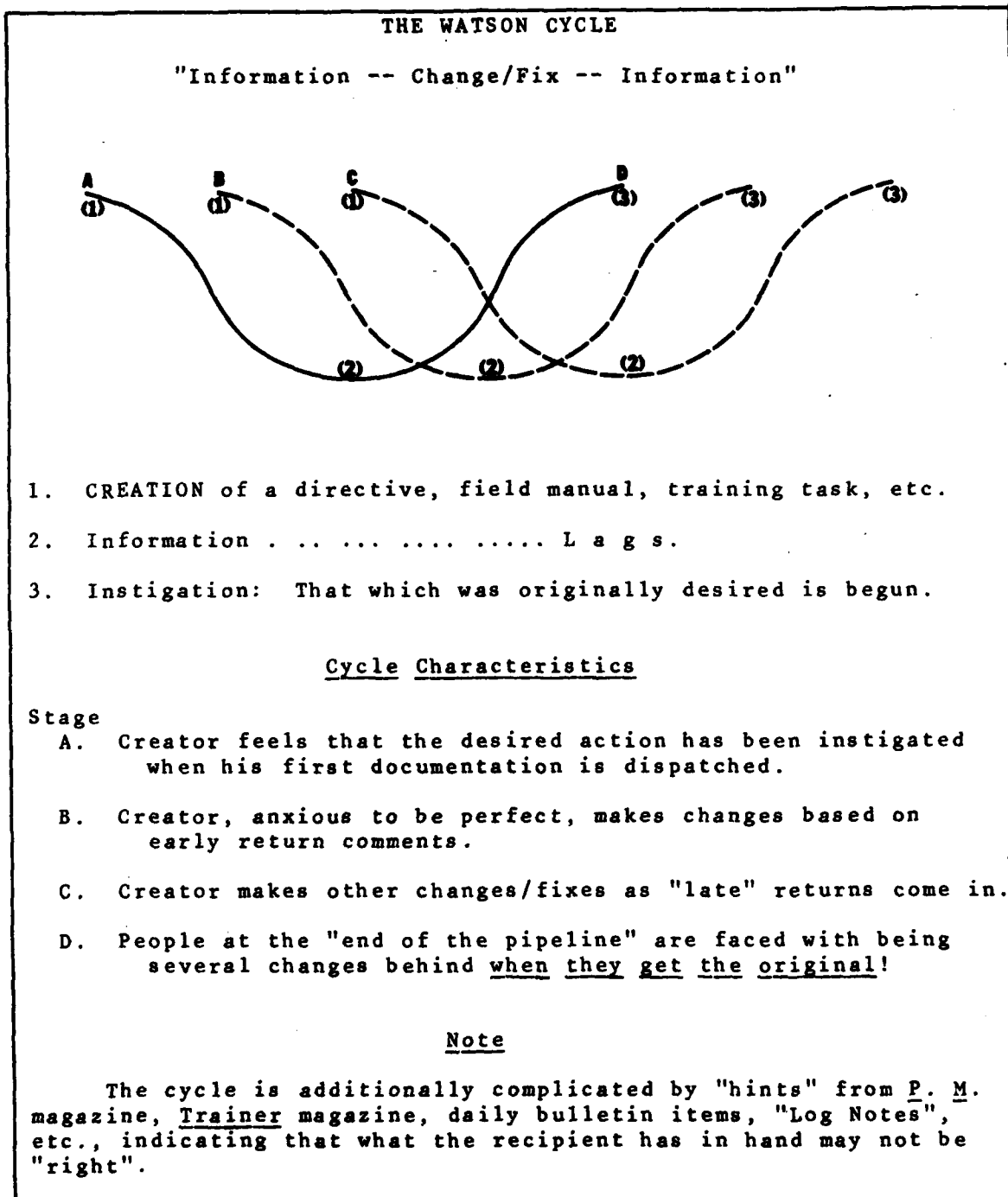
As much as five to six months now pass between: 1) the time a proponent's cleared manuscript is delivered for servicing in the system, and 2) the time a printed text is finally received by the user in the field. (Figure 1) In this day of rapid communications, such a turn-around is neither necessary, as I will demonstrate elsewhere in this study, nor, seemingly, is it often tolerable in the working existence of proponent agencies.

Proponents of Army Regulations frequently now find it desirable to use "emergency" interim change procedures.¹ Otherwise, they are observably swept-up in a destructive pattern of work which I shall call "The Watson Cycle", in honor of the man who introduced its characteristics to me. (Figure 2) The burden on consumer-units is exacerbated, in any case, whether because of the time consuming, unwieldy nature of the pen and ink notations that interim changes involve, or because units also fall prey to Watson Cycle ill-effects.

In this light, The Adjutant General's challenge is: 1) to dramatically reduce the turn-around time now centered in his publishing activity; and, 2) to generate an environment in which needed balance can be achieved between proponent, publisher and consumer requirements. Of course, meeting this

1. The Director, AG Publications Directorate has said that only 28% of all Army publications are now handled on a routine priority. The remainder are pushed through on a rush basis, in the end adding still further to the overall handling burden.

(Figure 2)



--Articulated by
Colonel Dwane C. Watson
during 1982 while teaching
at the US Army War College

challenge will help to alleviate some of the confusion and the degradation to readiness that now arises from the publication system's catalytic effect on the Watson Cycle. Fortunately, the technology, experience and economies of alternative publishing system logics are available for The Adjutant General's use in meeting his challenge.

In recent years revolutionary advances have occurred in publishing technology. Probably the most important has been the development of electronic composition as the substitute for linotype in integrated production systems. (Newspapers offer the classic example of integrated production systems; word processing and electronic composition technology are similar to each other in the sort of capability each offers in its medium.)

Tailored to the Army's needs, an integrated production system, using electronic composition and pagination, would answer part of The Adjutant General's challenge -- that concerned with giving more efficient and effective service to proponents. In this respect, it is instructive to note that the Publishing Services Branch of the Internal Revenue Service has created and has used for the last four years a "state of the art" integrated production system to publish the I.R.S. Manual.

The rationale for handling the other part of The Adjutant General's challenge, that of alleviating some of the burden on consumer-units that results from having to physically absorb the present heavy flow of regulatory guidance, is to be found in the example of the Official Airlines Guide and, to a lesser degree, in a metropolitan telephone directory. The logic is simply to admit that it is easier and ultimately -- if not immediately -- cheaper to systematically throw-away printed paper (or to recycle it,) than it is to conduct operations which are stringently tailored in a way to conserve it.

This type of thought was once evident in the Army -- before publishing conditions deteriorated to the point that the interim change concept was initiated; and before pen and ink interim changes supplanted page changes as the usual way units received new guidance. Unfortunately, during that period, technology continued to lag, thereby making it economically unrealistic to apply that logic without restriction. As it was, the Army's application was to provide users of its regulations with new pages only to replace those old pages which new guidance had made obsolete. (This, of course, still remains the officially mandated means for handling changes.)

The economies created by present technology, together with the soaring costs of manpower and the criticality of attention to readiness needs by units, now suggest virtually unrestricted use of the throw-away logic. The remainder of this study will demonstrate that it is indeed reasonable for the Army to think now in these terms.

In assembling data for this study, a diligent effort has been made to locate and employ established facts. Regrettably, there have been many cases where responsible substitutes had to be contrived. However, the overall result is sufficiently reliable to justify drawing of conclusions.

The only assumptions I have knowingly used in this study are: 1) that the composition of a unit library is the function of the distribution scheme to which the unit subscribes; and, 2) that publications requested are handled in the manner prescribed in the publications system. In point of fact, I am only too aware that these particular assumptions are not universally valid. And I would not wish anyone to think otherwise. The fact is, no two units seem to deal with publications in the same way. So, there is no choice but to assume as I have done.

OVERVIEW

This study is about the impact on the Army that results from the process it chooses to use in publishing unclassified regulations, primarily those for small units.¹ As seen through measurement of 1981 activity, this study provides insights on:

- o Manpower Burdens
- o Systemic Time Lapses
- o Direct and Buried Costs
- o Alternatives for Relief

While no effort is made to relate proponent or using unit performance to the regulation publishing process, the data presented in this study urge that:

- o Time consumed in the delivery of guidance to those who must implement it necessarily retards the development of desired results, thereby inhibiting readiness improvement.
- o Small units are especially vulnerable in their sensitivity to the administrative burden of the regulatory change to which they are exposed. And given the demands on small units to make prompt, effective use of the guidance contained in regulations, processes which are burdensome adversely affect readiness throughout the Army as a whole.

Five sets of findings support these observations:

Publications to regulate generically small units -- defined as those

1. Classified regulations are not considered in this study; microfiche publications are excluded from all data, except when noted.

at the company, battalion and brigade levels -- account for more than half of the Army's traffic in printed guidance.²

- o At the end of 1981, a complete small unit regulation library, (distribution A+B regulations and permanent and interim changes,) contained 1,273 separate titles, or 46.85% of the total titles in print.
(Table G)
- o The average size of regulatory publications issued in 1981 was:
 - Regulations: 44 pages
 - Permanent Changes: 55 pages
 - Interim Changes: 6 pages (Table E)
- o 21,958 pages or 37.6% of the 58,365 pages in a complete library of Army Regulations (excluding permanent and interim changes,) have been marked over the years for use by small units. (Table G)
- o 1,016,940 subscriber accounts or 72.67% of all publication accounts are for distribution A+B publications. (Table M)
- o More than half of the flow or traffic in new regulatory publications was directed to small units in 1981:
 - 40.2% of regulations³
 - 48.5% of permanent changes (Table N)
 - 64.9% of interim changes (Table O)
- o 3,138,815 subscriptions or 66% of all the copies of regulatory publications requested are for distribution A+B publications. (Tables I and M)

2. Though made to seem large by attachment of subordinate battalions, the organic and doctrinal composition of brigades remains quite small. The staff, certainly, is limited at all times.

3. U. S. Army AG Publications Center, Baltimore, Baltimore Publications Bulletin. Baltimore: 1981. (Manual abstract showing 74 of 184, total.)

- o The average distribution A+B publication-user absorbed the equivalent of 0.64 manyears of work to carry-out the handling and maintenance functions assigned to users in the publishing process. (Exhibit 5)

While subject to a very heavy flow of regulatory guidance, small units are self-evidently understaffed to accommodate the attendant administrative burden.

- o On 1 December 1981, there were:
 - 1,399 Army Regulations, of which 558 or 39.8% applied to small units
 - 1,129 permanent changes in force, of which 570 or 50.48% were applicable to small units
 - 189 interim changes in print, of which 145 or 76.7% were for small units. (Table G)
- o Small units carried all but 26% of the posting transaction burden initiated in 1981 with permanent and interim changes to regulations:
 - 51.1% of permanent page change transactions, a frequency of 914 in a sample of 1,785 (Table P)
 - 78.7% of the predominantly pen and ink interim change transactions, a frequency of 4,489 in a sample of 5,507 (Table Q)
- o There are at least four, perhaps more, intervals in unit handling which can add lag time to completion of the publishing process.
(Table R)

The existing publishing process is slow, clumsy and difficult, if not impossible to identify as a system. It involves hidden costs which are disproportionate to those which can be and are managed. It is viable as a means for delivering guidance only with the tolerance of its users and the sufferance of its ultimate customers in contributing management and manpower to complete the production work on regulatory products.

- o Propensity of regulations is shared by 80 different activities which are the perceived "customers" of Adjutant General publishing services.⁴
- o Five to six months are now required to produce a new permanent publication, after proponent staff work has been completed. (Figure 1)
- o After a proponent's manuscript is received, seven separate procedural stages must be completed in the publishing process before a finished product is ready for shipping; these take place in at least four different locations each situated at some distance from each other, therefore, creating a transportation requirement. (Figure 1)
- o Distribution A+B regulations are sent to at least 10,125 different customers (Table L) according to more than 240 different distribution patterns.⁵
- o In 1981, 45,233 separate orders were processed to "resupply" customers with 1,349,798 distribution A+B publications:
 - 13,351 requests by AUTODIN message
 - 20,641 requests by manual form
 - 11,241 "emergency" requests by telephone (Table B)
- o Processing time on resupply or order fulfillment transactions in 1981 averaged 43 calendar days for AUTODIN customers and 57 days for manual form customers. (Two-way mail delivery time is not included in these averages.)⁶

4. U. S. Department of the Army, Pamphlet 310-1. Washington: 1 December 1981.

5. DA Form 12-9A.

6. Baltimore Publications Bulletin. (Manual summary and averaging.)

- o The process for publishing distribution A+B regulations -- excluding any consideration of proponent work to perfect the guidance -- consumes over four and one-half times more overhead costs than managed production expense. (Exhibit 1)
- o For every dollar spent in centralized overhead costs, 59 cents are centrally expended on unmanaged direct costs (hidden overhead), or more than one and one-half times the managed production costs. (Exhibit 1)
- o On 1 December 1981, the changes in print exceeded basic distribution A+B regulations by 1.28 to 1. (Table G)
- o Although many small unit regulations have few or no changes, some are in a constant state of change and one had 32 changes in force on 1 December 1981 (19 permanent and 13 interim).⁷
- o Although NOT automatically distributed to customers holding old editions, 32 regulations were reprinted in 1981 to incorporate 183 permanent changes.⁸ This is less than 25.5% of the changes then in force. (Interim changes may still apply.) (Table G)

In 1981, with direct publishing expense totaling nearly five million dollars, the manpower cost absorbed by using units in merely handling and maintaining a distribution A+B library of regulations was ten times more costly to the Army.

- o The buried cost of manpower associated with user handling and maintenance of distribution A+B regulations was barely less than fifty million dollars in 1981 alone. This was 3,433.5 manyears. (Exhibit 4)

7. DA Pamphlet 310-1.

8. Baltimore Publications Bulletin. (Summary of data reported.)

Although highly tailored in superficial ways, the Army's actual publishing needs are not unique and its specifications are not particularly demanding.

- o Medium-sized daily newspapers routinely handle a self-evidently greater volume of words, illustrations and pages; they work with more sources and they must perform their work more quickly and cheaply to satisfy a much larger number of subscribers.
- o The Internal Revenue Service routinely handles a greater volume of regulation changes, nearly every word of which is subjected to the closest possible scrutiny by citizen-taxpayers, their lawyers, the courts and the Congress. This workload is systematically accomplished to impeccable standards of accuracy and graphical quality with a production turn-around of a lesser number of days than the number of months now consumed for equivalent production work in the Army. (Appendix 1) The cost for this is substantially lower than comparable Army costs. (Exhibit 6)
- o Information service publications, such as the Official Airlines Guide, systematically provide completely up-dated volumes to their subscribers, replacing earlier editions in which some text has become obsolete. With this action, the publisher provides to subscribers not only needed information, but, significantly, the equally important service of assimilating changed information by means of technology. Subscribers are thus spared the inefficiency and the high cost of having to perform that process themselves. The subscription price charged for such complete service in the example of the Official Airlines Guide is the practical equivalent to that now paid by the Army in direct costs -- without realizing the same up-date benefit for users.

(Exhibit 8) The OAG production cost (using subscription pricing as the measure,) is 7.8 times cheaper, per page printed, than Army costs. (Exhibits 6 and 7)

These facts afford a sharp perspective about the Army's regulation publishing process. It is an highly fragmented activity with a major impact on the Army's well-being. Yet, because the impact is so decentralized and because it is of the administrative sort that is still generally taken for granted -- almost as if by bureaucratic tradition -- no across-the-board policy or management authority exists to limit either its adverse operational effects or its financial consequences.

The conclusions to be drawn from the factual profile of the Army's regulation publishing system presented in this study are virtually inescapable:

- o The logic or format employed in regulatory publications plays a significant role in the Army's work.
- o Users of regulatory publications are the production mainstays in assimilating changed information to form the standardized guidance which governs the conduct of Army business.
- o The present capability of users to contribute to the Army's work is affected by the weight of regulation and regulatory changes placed on them. Processes which are adverse to user efficiency will affect all echelons of the Army, hence the Nation's defense posture.
- o The ability to make revolutionary improvements in Adjutant General publishing services is well within The Adjutant General's reach, both practically and financially, to the end of dramatically contributing not only to total systemic efficiency, but, more importantly, to proponent use of the Army's precious small unit manpower resources.

- o The continuing annual cost of regulation by publications is more than great enough to warrant an immediate, top-level Army management effort to reduce it.

The factual evidence in this study should be coupled with feeling for the hurdles that change involves. Although manifest that the present system has produced an untenable excess in demands placed on small units and that it is patently wasteful of valuable manpower, my experience offers an equally strong conviction that such effects merely happened, they were not created.

Clearly, revolutionary change is justified -- but I strongly urge against any course that adds jeopardy to the already tenuous status quo. It remains, then, for me to recommend a strategy for change that is evolutionary in form, though swift, very swift, in results.

With a deliberate evolutionary strategy and the tactics that I will outline as recommendations, change in the Army regulation publishing process will assure that the Army will work better in the future and that it immediately will be able to begin redirecting huge amounts of wasted manpower towards tasks that will better serve the interests of American taxpayers.

1981 COST OF DISTRIBUTION A & B REGULATIONS: AN ICEBERG 94% BELOW SURFACE

Copy available to DTIC does not
permit fully legible reproduction

PRODUCTION
\$866,875

OVERHEAD
\$2,528,122

\$3,394,997

\$51,389,452

MANAGED

UNMANAGED

OVERHEAD
\$1,486,260

SUBSCRIBER CONTRIBUTED MANPOWER
\$49,903,202

TOTAL ANNUAL COST: \$54,784,459

(Figure 3)

EXHIBIT 1. 1981 DIRECT EXPENSE, Distribution A+B

MANAGED EXPENSE

PRODUCTION COSTS (Composition
and Printing)^a

Regulations	\$ 482,968	
Permanent Changes	239,691	
Interim Changes	<u>144,216</u>	
		\$ 866,875

OVERHEAD

Publications Directorate ^b	\$ 54,442	
Baltimore Center ^c	<u>2,473,680</u>	
		<u>\$2,528,122</u>

SUBTOTAL - MANAGED EXPENSE \$3,394,997

BURIED OVERHEAD EXPENSE

POSTAGE

Subscription Fulfillment ^d	\$1,307,250	
Order Fulfillment ^e	<u>112,346</u>	
		\$1,419,596

SUBSCRIBER ORDERING^f

AUTODIN	\$ 40,053	
Postage	4,128	
Telephone	<u>22,483</u>	
		<u>\$ 66,664</u>

SUBTOTAL - BURIED OVERHEAD EXPENSE \$1,486,260

TOTAL \$4,881,257

-
- a. Table A.
b. (Table I totals) x (Table H factor).
c. (Table H Administrative Publications total) x (Table G overall percentage of distribution A+B to total distribution (46.85%)).
d. (Table J) + (Table K totals).
e. Exhibit 2
f. Table B.

EXHIBIT 2. 1981 ORDER FULFILLMENT DIRECT COSTS, Distribution A+B

INITIATION OF REQUESTS^a

AUTODIN COSTS	\$ 40,053	
POSTAGE COSTS	4,128	
TELEPHONE COSTS	<u>22,483</u>	\$ 66,664

PRINTING^b \$ 0

POSTAGE^c \$ 112,346

BALTIMORE CENTER OVERHEAD^d \$ 989,472

TOTAL \$1,168,482

a. Table B.

b. Stocks initially used for order fulfillment are from the printing run ordered in conjunction with initial distribution -- subscription fulfillment. Although a procedure involving re-runs does exist, hence additional funding, no effort was made to capture those costs. It is usual that the greatest demand for order fulfillment occurs in the period immediately following first distribution. It was, therefore, thought inappropriate to undertake extensive research to gather information on those few publications which were re-run in the year of their original issue.

c. 45,233 orders (Table B) averaging 29.83 publications each (Table B) @ five ounces (Table E) = 150 ounces per order. Mailed Book Rate @ \$2.43 = \$112,346.19.

d. Table G overall percentage times related Table H subtotal.

EXHIBIT 3. 1981 SUBSCRIPTION FULFILLMENT DIRECT COSTS, Distribution A+B

<u>PRODUCTION</u> ^a	\$ 866,875	
<u>POSTAGE</u> ^b	\$1,307,250	
<u>OVERHEAD</u>		
Publications Directorate ^c	\$ 54,442	
Baltimore Center	<u>1,484,208</u>	
		<u>\$1,538,650</u>
<u>TOTAL</u>		\$3,712,775

-
- a. Table A.
 - b. Table J.
 - c. (Table I totals) x (Table H factor).
 - d. (Table H administrative publications total) x (Table G general percentage (46.85%) - portion attributable to order fulfillment).

EXHIBIT 4. 1981 COST OF SUBSCRIBER MANPOWER, Distribution A+B Subscription
Fulfillment (Initial Distribution)

74 new Army Regulations ^a @ 0.15 manhours each ^b x 1,271,000 copies ^c =	190,650 manhours
47 new Permanent Changes ^a @ 0.70 manhours each ^b x 804,000 copies ^c =	562,800 manhours
189 new Interim Changes ^a @ 1.57 manhours each ^b x 3,472,000 copies ^d =	<u>5,451,040</u> manhours
<u>Total Manhours</u>	6,204,490
Productive Manhours/year ^e	<u>1,807</u>
<u>Total Productive Manyears</u>	3,433.5
E-5 Average Manyear Cost ^f (x)	\$ 14,492
<u>COST OF SUBSCRIBER MANPOWER</u>	\$49,903,202

a. Table I.

b. Table R.

c. Table J.

d. Table K.

e. U. S. Department of the Army, Pamphlet 570-4. Washington: April 1974.

f. Figure provided by Comptroller of the Army (Mr. Curle, Cost Analysis).

EXHIBIT 5. SUBSCRIBER MANPOWER CONSUMED IN SUBSCRIPTION FULFILLMENT ACTIVITY,
1981 Distribution A+B

74 new Army Regulations distributed ^a x 0.15 manhours each ^b =	11.10 manhours
47 new Permanent Changes distributed ^a x 0.70 manhours each ^b -	33.00
189 new Interim Changes distributed ^a x 1.57 manhours each ^b =	<u>297.00</u>
	341.10 manyears
Productive Manhours/year ^c (÷)	<u>1,807</u>
<u>Manpower Per Copy Subscribed</u>	.19 manyears
Average number copies subscribed ^d (x)	<u>3.39</u>
MANPOWER CONSUMED PER SUBSCRIBER	0.64 manyears

a. Table I.

b. Table R.

c. U. S. Department of the Army, Pamphlet 570-4. Washington: April 1974

d. Table C.

EXHIBIT 6. ALTERNATIVES, Internal Revenue Service Actual Payments Compared Against Estimated Army Costs^a

I. R. S. ^b			Army Equivalent Estimate ^c							
Pages	Copies	Payment	Copies	1st 1,000	Add'l. 1,000's	Subtotal	Pages	Direct Costs	Added Indirect Costs ^d	Total Cost
72	5,605	\$ 2,695	6,000	\$11.76	\$16.80	\$28.56	72	\$2,056	\$3,516	\$ 5,572
4	4,247	1,107	4,000	11.76	10.08	21.84	4	87	148	235
6	27,384	5,975	27,000	11.76	87.00	98.76	6	593	1,014	1,607
32	5,013	1,565	5,000	11.76	13.44	25.20	32	806	1,378	2,184
8	5,388	1,387	5,000	11.76	13.44	25.20	8	202	345	547
12	4,736	1,280	5,000	11.76	13.44	25.20	12	302	516	818
16	990	456	1,000	11.76	- -	11.76	16	188	322	510
8	947	436	1,000	11.76	- -	11.76	8	94	160	254
44	6,168	2,387	6,000	11.76	16.80	28.56	44	1,257	2,149	3,406
8	2,246	714	2,000	11.76	3.36	15.12	8	121	207	328
88	1,152	1,224	1,000	11.76	- -	11.76	88	1,035	1,770	2,805
56	21,671	7,740	22,000	11.76	70.98	82.74	56	4,633	7,922	12,555
6	2,128	680	2,000	11.76	3.36	15.12	6	91	155	246
24	9,199	2,518	9,000	11.76	26.88	38.64	24	927	1,586	2,513
36	3,679	1,525	4,000	11.76	10.08	21.84	36	786	1,344	2,130
8	3,836	1,377	4,000	11.76	10.08	21.84	8	175	299	474
6	1,463	541	1,000	11.76	- -	11.76	6	71	121	192
24	2,890	1,414	3,000	11.76	6.72	18.48	24	444	759	1,203
36	2,507	1,761	3,000	11.76	6.72	18.48	36	665	1,137	1,802
494	111,249	\$36,782	111,000				494			\$39,381

I.R.S. AVERAGE COST:

\$74 per page
\$0.0331 per sheet

ARMY AVERAGE COST:

\$80 per page
\$0.0355 per sheet

a. The addition of a sum to cover the indirect costs of handling at the Army's AG Publications Center, Baltimore, does not fully offset some further services received by the Internal Revenue Service for the price it pays, notably much faster service, higher quality printing and higher quality paper.

(Continued)

EXHIBIT 6. (Continued)

b. Information on February, 1982 payments furnished by the Printing Services Branch, Internal Revenue Service.

c. Army Publications Directorate rule of thumb prices for estimating costs have been modified by the author by 20% to reflect observed generalized relationships in that office's experience with estimates compared with actual billed costs.

d. The ratio of Baltimore Center overhead at \$1.71 to printing costs at \$1.00 -- Exhibit 3.

EXHIBIT 7. ALTERNATIVES, The Official Airlines Guide (OAG)^a

<u>OAG</u> Issues per year:	24
Pages per Issue:	<u>x1,344</u>
Pages per year:	32,256
Subscription Price:	\$132.00
Second Class Postage:	<u>14.64</u>
Annual Subscriber Payment:	\$146.64
Subscriber Maintenance Required:	None
Subscriber Cost per Printed Page:	\$0.00455

a. The actual cost of OAG production is proprietary information belonging to Dun and Bradstreet, its publisher, and to the R. R. Donnelley & Sons Company, their printer. Although the author had discussions with responsible representatives of both firms, he made no effort to solicit access to such information because he could not guarantee the future use of data published in this study. Certainly, though, it can be safely assumed that production costs are less than prices charged to subscribers.

EXHIBIT 8. ALTERNATIVES, OAG Pricing Applied to Army Demand

<u>OAG</u> Price per page:	\$	0.00455 ^a	
Army Distribution A+B Library:	x	<u>21,958</u> ^b	
Army Library at <u>OAG</u> Prices	\$	99.90	per issue
Maximum Distribution A+B Subscription Count in a Single Publication Series:	x	<u>10,125</u> ^c	
Initial Distribution Cost of a "New Library":		\$1,011,488.00	

EXAMPLE: At OAG pricing, a complete update of the Distribution A+B library, issued quarterly would Cost \$4,045,952. The present Army direct annual cost -- without insuring that all libraries are, in fact, updated -- is \$4,881,257, or \$835,307 more than the OAG-type process.

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- a. Exhibit 7.
 - b. Table G.
 - c. Table L.

RECOMMENDATIONS

The foregoing conclusions suggest the need for certain changes. They are:

1. To obtain an Army policy which recognizes the adverse operational effects and the financial or manpower consequences that publishing practices and processes now have; to provide management authority to accommodate the separate, legitimate needs of proponents, publishing activities and consumer-units in a more balanced way.
2. To cut the publishing service turn-around time.
3. To dramatically cut the handling and maintenance time required of users of Army Regulations.

As suggested in my introduction, the first requirement entails the participation of an authority whose purview encompasses the fullest range of participants in the publishing process: The Adjutant General cannot merely assert the greater control and authority that he should have, notably over proponent practices in the use of changes. My recommendation is that, first, the Vice Chief of Staff's personal interest should be obtained. Thereafter, as the events suggested below are accomplished, his participation will be important.

Satisfaction of the second requirement is largely encompassed by The Adjutant General's function. My recommendation is that he direct immediate steps be taken to obtain from the Joint Committee on Printing the same exception from rules for the Army as the Internal Revenue Service obtained and to move forward with all speed in the direction suggested in the IRS Proposal. (See Appendix 1.)

The third requirement depends somewhat on success with the first requirement, but it is directly contingent on success with the second. My recommendation is that the proposal made to the Joint Committee, above, should include an added concept covering production of certain throw-away handbooks to serve as "bibles" for personnel working in certain intensely-regulated and constantly changing functions, such as recruiting, personnel, military payroll, etc. I do not mean to suggest, however, that commencement of work on this requirement should be preceded with success in the second requirement. Quite the opposite, see below.

If I was managing change in this situation, my general sequence for action would be this one:

1. Quietly assemble a prototype "handbook" consisting of regulations needed for use by personnel workers as their "bible". Develop a distribution concept for it based on past experience with the regulations it contains. The IRS typographical style should be considered, but the Army standard 8½ x 11 page size should be used. A process for highlighting changes in the text should be worked-out. The physical make-up of the handbook should be similar to the paper and binding used in the Official Airlines Guide. Separate suggestions should be perfected to cover different frequencies for up-date that may be desired, e.g., monthly, bi-monthly and quarterly. Project whole costs for production and user handling, based on completion in an IRS-like production system. The idea, of course, would be to develop the basis for substituting complete new editions of the handbook for the present basic regulation and all of the changes to which it is subjected. A trouble area might be the rule which allows publication of interim changes without coordination with MACOM's. This could be avoided if The Adjutant General stipulated that as a handbook, inclusion of interim change material into the basic printed text would remain

"temporary" unless later converted into a permanent change or unless included in a revision of the basic regulation.

2. Using a "dummy" handbook created in the course of Step 1, the handbook should be recommended to the Deputy Chief of Staff, Personnel as:

- a. A better theoretical way of doing business, and
- b. As an experiment.

His participation and his personal support should be requested.

3. Obtain approval for the handbook experiment from the Joint Committee on Printing. The IRS proposal provides an excellent guide for this.

4. Have the handbook content set in computer generated type, using the most current form of the regulations involved.

5. Develop a production schedule for the first handbook edition. Provide proof copies of the typeset regulations for the proponent's use in deciding new changes they will make in the ordinary course of their work -- though they should be required to work against absolute deadlines for their submissions. (A critical element in the development of the publication system's present weakness is the absence of a set cycle or actual deadline which can serve to drive systemic behavior.)

6. Announce and give selective internal publicity to the initiation of an experiment. Attempt to create realistic handling conditions for the first production by a directly-contracted contractor. Act to guarantee that the initial "update" and each succeeding issue of the experimental handbook proceeds through in-house handling with an IRS-like schedule.

7. Provide a device for immediate subscriber feedback. Solicit their immediate reaction, their estimate of time saved, etc. Avoid, completely, formal survey or report requirements.

8. Carefully account for all costs that are production related.

9. Using the personnel handbook experiment as a guide, repeat the process with another set of constantly changing regulations -- a handbook for pay clerks, perhaps.

10. Assess the strengths and weaknesses of the two experiments and on that basis decide whether or not:

a. The contracted, computer-assisted, integrated production process does in fact produce more timely handling of publications;

b. The cost indicators are in line with present experience;

c. The elimination of unit maintenance time has been important to units; whether they feel their productivity has been improved;

d. The frequency of experimental up-dating is justified or if some other frequency would do sufficiently well but at a lower cost.

11. If the results of this assessment are positive, return to the Joint Committee with that knowledge and request authority to convert all regulation production to an IRS-type system. Select several more handbooks for production. Perfect a new typographical and layout design concept for use in the computer maintained system. (The Internal Revenue Service has invested heavily over the years in obtaining the best design advice. Before seeking more costly design consultant advice, the IRS experience should be thoroughly considered.)

12. One proponent at a time, convert to contractor production. As publications are created in the new system, transfer order fulfillment for those publications to the contractor.

13. Request that proponents give serious reconsideration of their use of Distribution A and Distribution B formulas. The number of regulations directed to those levels can be cut -- at the Distribution A level, at least.

14. Develop a prototype of a battalion set of regulations, organized in separate volumes by staff function. An S-1 book could be first. Issue it. Obtain feedback. Up-date once and obtain feedback.

15. Determine if users have found the OAC-like books to be helpful.

16. If successful, do further updates of the S-1 book and proceed into production, one by one, with an S-3 book, an S-4 (Supply) and an S-4 (Maintenance) book, etc.

17. Evaluate the practical needs of MACOMs for supplementing the text in handbook or battalion staff volumes. Develop prototypes for experiments to: 1) incorporate MACOM supplemental instructions into the text of AR's; and, 2) distribute their supplements as an additional signature bound-in the volume as a separate section.

18. Reassess the quantity of publications that a single unit is given. Part of the present use of publications is to serve as a handy vehicle for notifying "interested" parties that a change has been received. Consider development of a small abstract or executive summary periodical to include with the shipment of new handbook or battalion staff volumes. The aim should be to push-down the number of copies that users think they must have in order to be effective. In this respect, it is important that authorization be given for local photocopying of individual regulations for which some special need exists locally. (Army schools should be told to print their own instructional copies. To facilitate this, it would be easily possible to print a few hundred copies of each book edition on a paper stock that would permit an improved reproduction by these means. One copy could be given to each installation just for such purposes.) In the end, it should be possible to press for distribution of books at the rate of one or, at most, two copies to a unit. Those "bible" handbooks need not follow the same rule, but even they should

not be unlimited in supply and available on demand. I would favor moving toward automatically giving units a certain number "free" and allowing them to use their funds to subscribe to additional copies as they see fit.

19. Seek a new policy statement to mandate balance in the publications system and to provide The Adjutant General with the authority to enforce it.

Clearly, there are many, many incidental steps that are subsumed in the recommendations related above. Nevertheless, it has been my experience both in the Army and in civilian life, that tactics of this sort permit avoidance of expensive, frustrating and time-wasteful studies which attempt -- and always fail -- to anticipate every conceivable possibility. All of the steps should be treated as building blocks, with each, in its time, treated as if it was the only change to be considered. In that way, risks and step costs will be manageable, fewer egos and entrenched empires will be threatened, fewer decisions will have to be taken and, ultimately, there will be a comparatively speedy success.

In my mind, the prime tactic shown in the foregoing is to patiently and methodically take advantage of the bureaucratic tendency to want to "get in" on a demonstrated "good thing".

It must be said that many of the conditions which have been shown for regulatory publications also exist in the Army with regard to logistical and training publications. For that reason, I do recommend that those areas be subjected to the same type of examination that I have given in this study. Having said this, I must also report my observation that it would be a real mistake to wait on completion of any part of those studies before undertaking the changes recommended herein. Certainly, too, the other services share some of the Army's publication problems.

I must also acknowledge that microfiche publications do exist in the Army. My observation about microfiche is that people who merely use them for occasional research tend to find them quite handy. But the very many people who constantly depend on access to the information published in microfiche form, tend to create paper copies or to make some type of manual abstract in order to be able to compensate for the physical characteristics of film as compared with print. The ability to mark-up a paper copy cannot be duplicated with film. Then too, for many of us the Catalogue of Abbreviations and Brevity Codes is only an occasional reference tool. But for message center personnel, that publication is like a constantly used word-dividing dictionary without which no reputable secretary is able to perform. Thus, my recommendation is that microfiche is not a medium particularly well-suited to reproduction of Army Regulations because they can eat-up more costs in added inefficiency, in manpower and in equipment requirements than the medium saves in printing and postage. Clearly, many Army publications -- even some regulations -- can be published in microfiche with excellent effect, it is critical though to thoughtfully assess how all users use the publication before print is abandoned.

For the benefit of those who ask: "Why not put all of the regulations in a computer?" the answer is that use of computer-assisted typography automatically provides that potential. In anticipation of the growing availability of terminals throughout the Army it would be prudent to plan for that type of access as each step of creating an integrated print publishing system takes place. I do not recommend, however, that a program for providing such access be regarded as anything more than a bi-product of developing a faster, cheaper, better hard-copy system.

TABLE A. SUMMARY OF 1981 PRODUCTION COSTS, Distribution A+B

<u>ARMY REGULATIONS:</u> ^a	\$482,968
<u>PERMANENT CHANGES:</u> ^b	239,691
<u>INTERIM CHANGES:</u> ^c	<u>144,216</u>
<u>TOTAL PRODUCTION COSTS:</u>	\$866,875

-
- a. Table A-1.
 - b. Table A-2.
 - c. Table A-3.

TABLE A-2. 1981 PERMANENT CHANGE PRODUCTION COSTS, Distribution A+B^a

(1) Size of Run (000)	(2) Cost Per Sheet	(3) Cost Per Issue ^b	(4) Number of Issues ^c	(5) Total Cost
2	\$ 34.80	\$1,531.20	1	\$ 1,531.20
10	57.20	2,516.80	1	2,516.80
12	62.80	2,763.20	6	16,579.20
15	71.20	3,132.80	1	3,132.80
18	79.60	3,502.40	1	3,502.40
20	85.20	3,748.80	3	11,246.40
23	93.60	4,237.20	12	50,846.40
25	99.20	4,364.80	7	30,553.60
28	107.60	4,734.40	3	14,203.20
30	113.20	4,980.80	1	4,980.80
34	124.40	5,473.60	10	54,736.00
50	169.20	7,444.80	1	<u>7,444.80</u>

\$199,742.40

(x) .20^d

\$ 39,948.40

(+) 199,742.40

TOTAL PRODUCTION COSTS: \$239,690.80

a. Data created using AG Publications Directorate rule of thumb for estimating costs: \$32 per page for first 1,000 copies, plus \$2.80 for each additional 1,000 copies.

b. Table D factor for content @ 55 pages average in 1981.

c. Table I.

d. Author's judgment of increase required to project current market prices. Need for this determined from comparing actual 1981 estimated costs against final billed costs in a random sample of 1981 publications.

TABLE A-3. 1981 INTERIM CHANGE PRODUCTION COSTS, Distribution A+B^a

(1) Size Run Run (000)	(2) Cost Per Sheet	(3) Cost Per Issue ^b	(4) Number of Issues ^c	Total Cost
10	\$ 57.20	\$ 343.20	4	\$ 1,372.80
12	62.80	376.80	2	753.60
15	71.20	427.20	1	427.20
18	79.60	477.60	1	477.60
20	85.20	511.20	12	6,134.40
23	93.60	561.60	54	30,326.40
25	99.20	595.20	42	24,998.40
28	107.60	645.60	26	16,785.60
30	113.20	679.20	10	6,792.00
34	124.40	746.40	5	3,732.00
40	141.20	847.20	3	2,541.60
43	149.60	897.60	22	19,747.20
50	169.20	1,015.20	6	<u>6,091.20</u>
				\$120,180.00
			(x)	<u>.20^d</u>
				\$ 24,036.00
			(+)	<u>120,180.00</u>
		TOTAL PRODUCTION COSTS:		\$144,216.00

TABLE B. 1981 SUBSCRIBER ORDERING COSTS, Distribution A+B

(1) Type of Request	(2) Number of Messages ^a	(x)	(3) Cost Factor	(=)	(4) Total Cost
AUTODIN	13,351		\$3.00 ^b		\$40,053
MANUAL	20,641		\$0.20 ^c		\$ 4,128
PHONE	11,241		\$2.00 ^b		\$22,483

a. Table B-1.

b. A notional figure derived through discussions about local experience with communications professionals in different parts of the country.

c. Postal minimum for a first class mailing piece.

TABLE B-1. SUBSCRIBER ORDERING, Distribution A+B

(1) Type of Request		(2) Number of Messages	(3) Number of Publications
AUTODIN	(All Types)	47,499 ^a <u>x .60^b</u>	3,177,595 ^a <u>x .60^b</u>
	(Admin Only)	28,499 <u>x46.85^c</u>	1,906,557 <u>x 46.85^c</u>
	(A+B Admin Only)	13,351	893,221
MANUAL	(All Types)	73,432 ^a <u>x .60^b</u>	1,504,280 ^a <u>x .60^b</u>
	(Admin Only)	44,059 <u>x46.85^c</u>	902,568 <u>x 46.85^c</u>
	(A+B Admin Only)	20,641	422,853
PHONE	(All Types)	39,993 ^a <u>x .60^b</u>	--
	(Admin Only)	23,995 <u>x46.85^c</u>	71,985 ^d <u>x46.85^c</u>
	(A+B Admin Only)	11,241	33,724
TOTALS	(A+B Admin Only)	<u>45,233</u>	<u>1,349,798</u>

a. Data furnished by Commander, AG Publications Center, Baltimore.

b. Factor furnished by Commander, AG Publications Center, Baltimore.

c. Table G.

d. Figure created on the median possibility within the rule allowing a maximum of five publications per order by "emergency" telephone request.

TABLE C. AVERAGE PUBLICATIONS ORDERS

SUBSCRIPTION FULFILLMENT:

$$\frac{\text{Total Copies Subscribed: } 4,753,103^a}{\text{Total Subscribers: } 1,399,363^a} = 3.39 \text{ Average Order}$$

ORDER FULFILLMENT:

$$\frac{\text{Total Copies Ordered: } 4,801,854^b}{\text{Total Orders: } 160,924^b} = 29.83 \text{ Average Order}$$

-
- a. AG Publications Directorate, Consolidated Report dated 31 March 1981
- b. The sum of "All Types" Subscriber Ordering shown at Table B-1.

TABLE D. 1981 PUBLICATION SIZES, Army Regulations and Changes^a

ARMY REGULATIONS:

$$\frac{\text{Total Pages: } 6,871}{\text{Number In Stock: } 155} = 44 \text{ Pages Average}$$

PERMANENT CHANGES:

$$\frac{\text{Total Pages: } 3,682}{\text{Number In Stock: } 67} = 55 \text{ Pages Average}$$

INTERIM CHANGES:

$$\frac{\text{Total Pages: } 1,171}{\text{Number In Stock: } 184} = 6 \text{ Pages Average}$$

AVERAGE REGULATORY PUBLICATION:

$$\frac{\text{Total Pages: } 11,724}{\text{Total Titles In Stock: } 228} = 52 \text{ Pages}$$

a. Manual abstract from Monthly Status Report dated 30 January 1982, AG Publications Center, Baltimore.

TABLE. E. MAILING WEIGHT^a OF AVERAGE 1981 REGULATORY PUBLICATIONS^b

ARMY REGULATIONS: @ 44 pages = 22 sheets = 4 ounces

PERMANENT CHANGES: @ 55 pages = 28 sheets = 5 ounces

INTERIM CHANGES: @ 6 pages = 3 sheets = 1 ounce (postal minimum weight)

AVERAGE REGULATORY PUBLICATION: @ 52 pages = 26 sheets = 5 ounces

a. Determined by weighing the appropriate number of sheets taken from actual 1981 publications, together with a standard issue envelope of the type commonly used for such mailings at the AG Publications Center, Baltimore.

b. Table D.

TABLE F. POSTAL CHARGES, Distribution A + B Mailings^a

SUBSCRIPTION FULFILLMENT:

Army Regulations: 4 ounces @ Book Rate = 63¢

Permanent Changes: 5 ounces @ Book Rate = 63¢

Interim Changes:^b 1 ounce @ First Class Rate = 20¢

ORDER FULFILLMENT:

Average Administrative Publication: 5 ounces @ Book
Rate = 63¢

a. Based on current Postal Service rates and usual AG Publication Center, Baltimore, handling

b. First Class handling required for initial distribution of interim changes; order fulfillment is handled at book rate, however.

TABLE G. AN ARMY REGULATION LIBRARY, Status Quo on 1 December 1981^a

Publication	Total Distribution		Distribution A+B Only	
	<u>Titles</u>	<u>Pages</u>	<u>Titles</u>	<u>Pages</u>
ARMY REGULATIONS	1,399	58,365 [~]	558	21,958 ^b
PERMANENT CHANGES	1,129	62,095 ^c	570	31,350 ^c
INTERIM CHANGES	189	1,134 ^c	145	870 ^c
TOTAL	2,717	121,594	1,273	54,178

SUMMARY: Distribution A+B as a Percentage of Total Titles:

Regulations:	39.88%
Permanent Changes:	50.48%
Interim Changes	76.71%
OVERALL:	46.85%

a. Except as otherwise noted, data summarizes a manual abstract from U. S. Department of the Army, Pamphlet 310-1. Washington: 1 December 1981.

b. Summary of manual count of 1981 dated items in stock on 30 January 1982 at the AG Publications Center, Baltimore, as reflected in that agency's Consolidated Monthly Status Report, dated 30 January 1982.

c. (Number of titles) x (Table D - Average).

TABLE H. OVERHEAD

AG PUBLICATIONS DIRECTORATE (Headquarters Only)^a:

Average Cost Per Title: \$175.62

AG PUBLICATIONS CENTER, BALTIMORE:^b

Budget: \$8,800,000^c

Workload factors:

60% Initial Distribution (Subscription Fulfillment) = \$5,280,000

60% Administrative Publications = \$3,168,000

40% Other Publications (Training, etc.) = \$2,112,000

40% Resupply (Order Fulfillment) = \$3,520,000

60% Administrative Publications = \$2,112,000

40% Other Publications (Training, etc.) = \$1,408,000

(Total Administrative Publications: \$5,280,000)

a. Factor generated during a survey conducted for that agency; excludes GSA.

b. Budget and factors furnished by Commander, AG Publications Center, Baltimore.

c. Includes personnel, supplies, equipment, computer support, bulk transportation and rent.

TABLE I. DISTRIBUTION A + B, 1981 Requirements for Publications and Initial Distributions, By Subject

SUBJECT	(1) Distribution A Subscriptions	(2) Distribution B Subscriptions	(3) Distribution A+B Average Subscription ^b	(4) Factor for Subscription Fulfillment ^c	(5) Factor for Printing ^c	(6) New Army Regulations Issued ^d	(7) New Permanent Changes Issued ^d	(8) New Interim Changes Issued ^d
ADMINISTRATION (1 Series)	30,338	13,624	21,981	22,000	30,000			
MANAGEMENT (5 Series)	-	11,075	11,075	11,000	15,000			
ORGANIZATION AND FUNCTIONS (16 Series)	21,112	12,600	16,856	17,000	25,000	2		
ARMY PROGRAMS (11 Series)	20,117	10,400	15,259	15,000	23,000			
BOARDS, COMMISSIONS AND COMMITTEES (15 Series)	18,291	8,848	13,570	14,000	20,000		1	
MANAGEMENT INFORMATION SYSTEMS (18 Series)	12,496	7,642	10,069	10,000	15,000	2		
INSPECTIONS AND INVESTIGATIONS (20 Series)	23,569	10,854	17,212	17,000	25,000			
LEGAL SERVICES (27 Series)	21,105	11,611	16,358	16,000	23,000	1	2	2
WELFARE, RECREATION AND MORALE (28 Series)	17,934	8,628	13,281	13,000	20,000			
FOOD PROGRAM (30 Series)	19,152	8,007	13,579	13,000	20,000			4

TABLE I. (Continued)

CLOTHING AND TEXTILE MATERIAL (32 Series)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
STANDARDIZATION (34 Series)	13,459	5,677	9,568	10,000	15,000			
AUDIT (35 Series)	-	4,137	4,137	4,000	6,000			
FINANCIAL ADMINISTRATION (37 Series)	-	5,577	5,577	6,000	9,000			
MEDICAL SERVICES (Applicable to Medical Activities Only) (40 Series)	22,527	16,256	19,642	20,000	28,000	2	2	14
MEDICAL SERVICES (Applicable to All Army Elements) (40 Series)	7,708	5,550	6,929	7,000	10,000	4	1	
NUCLEAR WEAPONS AND MATERIEL (50 Series)	20,307	10,407	15,357	15,000	23,000	1		4
TRANSPORTATION AND TRAVEL (55 Series)	12,085	5,065	8,575	9,000	12,000		1	
SURFACE TRANSPORTATION (56 Series)	20,815	11,629	16,222	16,000	23,000	1		3
AIR TRANSPORTATION (59 Series)	-	6,562	6,562	7,000	10,000			
EXCHANGE SERVICE (60 Series)	10,167	5,360	7,764	8,000	12,000			
POSTAL SERVICE (65 Series)		4,083	4,083	4,000	6,000			
COURIER SERVICE (66 Series)	19,164	9,068	14,116	14,000	20,000			
RESEARCH AND DEVELOPMENT (70 Series)	-	3,425	3,425	3,000	5,000			
FORCE DEVELOPMENT (71 Series)	-	5,210	5,210	5,000	8,000			
EXPLOSIVES (75 Series)	12,312	6,000	9,156	9,000	12,000			
AVIATION (85 Series)	13,591	5,643	9,617	10,000	15,000	1		
COMMUNICATIONS—ELECTRONICS (105 Series)	15,929	7,989	11,959	12,000	18,000	3	1	
	28,051	11,787	19,919	20,000	28,000			1

TABLE I. (Continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
AUDIOVISUAL SERVICES (108 Series)	-	1,844	1,844	2,000	3,000			
ENVIRONMENTAL SERVICES (118 Series)		5,560	5,560	6,000	9,000			
ARMY NATIONAL GUARD (128 Series)	10,090	4,266	7,178	7,000	10,000			
ARMY NATIONAL GUARD AND ARMY RESERVE (138 Series)	17,890	12,713	15,302	15,000	23,000	1	7	23
ARMY RESERVE (148 Series)	15,974	13,454	14,714	15,000	23,000	3	2	20
RESERVE OFFICER'S TRAINING CORPS (148 Series)	-	4,815	4,815	5,000	8,000			
RELIGIOUS ACTIVITIES (158 Series)	12,823	5,192	9,008	9,000	12,000			
MILITARY POLICE (198 Series)	24,392	10,565	17,479	17,000	25,000	2	2	3
CRIMINAL INVESTIGATIONS (198 Series)	11,531	6,415	8,973	9,000	12,000	1		
INSTALLATIONS (218 Series)	16,156	10,500	13,328	13,000	20,000	1	1	7
FIELD ORGANIZATIONS (228 Series)	23,777	8,789	16,283	16,000	23,000	1		
NON-APPROPRIATED FUNDS AND RELATED ACTIVITIES (238 Series)	24,047	12,284	18,166	18,000	25,000	1	1	4
INDUSTRIALIZED ACTIVITIES AND LABOR RELATIONS (238 Series)	3,999	3,039	3,519	4,000	6,000			
NATIONAL CEMETERIES (288 Series)	2,838	2,201	2,520	3,000	5,000			
MILITARY PUBLICATIONS (318 Series)	43,793	22,855	33,324	33,000	50,000	1		3
AUTHORIZED ABBREVIATIONS AND BREVITY CODES (AR 310-50)								
REPORTS AND STATISTICS (335 Series)	12,768	8,911	10,840	11,000	15,000			

TABLE I. (Continued)

OFFICE MANAGEMENT (340 Series)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
PREPARING CORRESPONDENCE (AR 340-18)	45,471	21,788	33,630	34,000	50,000	5	1	3
THE ARMY FUNCTIONAL FILES SYSTEMS—GENERAL PROVISIONS (AR 340-18-1)								
MAINTENANCE AND DISPOSITION OF PLANNING, PROGRAMING, MANAGEMENT, HISTORICAL, AND COMBAT DEVELOPMENT FUNCTIONAL FILES (AR 340-18-2)								
MAINTENANCE AND DISPOSITION OF FINANCE AND FISCAL FUNCTIONAL FILES (AR 340-18-3)								
MAINTENANCE AND DISPOSITION OF LEGAL AND INFORMATION FUNCTIONAL FILES (AR 340-18-4)								
MAINTENANCE AND DISPOSITION OF INTELLIGENCE SECURITY, MILITARY POLICE, AND MAPPING FUNCTIONAL FILES (AR 340-18-5)								
MAINTENANCE AND DISPOSITION OF GENERAL PERSONNEL MANAGEMENT AND SAFETY FUNCTIONAL FILES (AR 340-18-6)								
MAINTENANCE AND DISPOSITION OF MILITARY PERSONNEL FUNCTIONAL FILES (AR 340-18-7)								
MAINTENANCE AND DISPOSITION OF CIVILIAN PERSONNEL FUNCTIONAL FILES (AR 340-18-8)								
MAINTENANCE AND DISPOSITION OF MEDICAL FUNCTIONAL FILES (AR 340-18-9)								
MAINTENANCE AND DISPOSITION OF TRAINING AND EDUCATION FUNCTIONAL FILES (AR 340-18-10)								
MAINTENANCE AND DISPOSITION OF COMMUNICATIONS FUNCTIONAL FILES (AR 340-18-11)								
MAINTENANCE AND DISPOSITION OF TRANSPORTATION FUNCTIONAL FILES (AR 340-18-12)								

TABLE I. (Continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
MAINTENANCE AND DISPOSITION OF RESEARCH AND DEVELOPMENT FUNCTIONAL FILES (AR 340-18-12)								
MAINTENANCE AND DISPOSITION OF LOGISTICS FUNCTIONAL FILES (AR 340-18-14)								
MAINTENANCE AND DISPOSITION OF FACILITIES FUNCTIONAL FILES (AR 340-18-18)								
MAINTENANCE AND DISPOSITION OF CIVIL AFFAIRS FUNCTIONAL RECORDS (AR 340-18-16)								
TRAINING (280 Series)	26,436	13,877	20,157	20,000	28,000	3		
SCHOOLS (281 Series)	25,734	12,294	19,014	19,000	28,000	1		2
DEPENDENT EDUCATION (282 Series)	5,484	3,815	4,650	5,000	8,000			
ARMY INFORMATION (289 Series)	21,533	12,422	16,982	17,000	25,000			1
SECURITY (290 Series)	28,932	15,149	22,041	22,000	30,000			1
SAFEGUARDING DEFENSE INFORMATION (AR 380-5)								
MILITARY INTELLIGENCE (281 Series)	16,835	9,071	12,953	13,000	20,000	3		
SAFETY (285 Series)	32,696	13,949	23,322	23,000	34,000	2	1	
REAL ESTATE (400 Series)	-	4,125	4,125	4,000	6,000			
CONSTRUCTION (415 Series)	-	4,644	4,644	5,000	8,000			
FACILITIES ENGINEERING (420 Series)	7,844	5,582	6,713	7,000	10,000			
EMERGENCY EMPLOYMENT OF ARMY AND OTHER RESOURCES (500 Series)	13,578	6,155	9,866	10,000	15,000	2		
MILITARY OPERATIONS (525 Series)	12,595	6,464	9,529	10,000	15,000	2		

TABLE I. (Continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OPS AND SIGNAL SECURITY (830 Series)	-	6,396	6,396	6,000	9,000			
FOREIGN COUNTRIES AND NATIONALS (850 Series)	5,283	3,371	8,654	9,000	12,000			
MANPOWER AND EQUIPMENT CONTROL (870 Series)	-	8,090	8,090	8,000	12,000	1		
PERSONNEL GENERAL (880 Series)	36,548	21,916	29,232	29,000	43,000	4		11
PERSONNEL PROCUREMENT (881 Series)	30,440	15,955	23,197	23,000	34,000	2	4	11
PERSONNEL SECURITY CLEARANCE (884 Series)	21,373	11,130	16,251	16,000	23,000			1
PERSONAL AFFAIRS (888 Series)	24,969	13,249	19,109	19,000	28,000	1		
PERSONNEL SELECTION AND CLASSIFICATION (811 Series)	25,952	19,946	22,949	23,000	34,000	2	5	4
PERSONNEL PROCESSING (812 Series)	14,570	7,766	11,168	11,000	15,000			1
ASSIGNMENTS, DETAILS AND TRANSFERS (814 Series)	23,496	10,926	17,211	17,000	25,000	2	2	13
PERSONNEL UTILIZATION (816 Series)	-	8,008	8,008	8,000	12,000			
EDUCATION (821 Series)	17,405	10,058	13,731	14,000	20,000	1		1
PERSONNEL EFFICIENCY RATINGS (823 Series)	39,074	15,835	27,454	27,000	40,000	1		3
PROMOTIONS (834 Series)	19,930	8,839	14,384	14,000	20,000			3
PROMOTION OF OFFICERS ON ACTIVE DUTY (AR 634-100)								
PERSONNEL ABSENCES (830 Series)	20,206	8,992	14,599	15,000	23,000			1
LEAVE, PASSES, ADMINISTRATIVE ABSENCE AND PUBLIC HOLIDAYS (AR 630-5)								

TABLE I. (Continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ABSENCE WITHOUT LEAVE AND DETENTION (AR 630-10)								
STANDARDS OF CONDUCT AND FITNESS (632 Series)	-	11,427	11,427	11,000	15,000			
PERSONNEL SEPARATIONS (636 Series)	23,580	12,070	17,825	18,000	25,000		2	14
DECEASED PERSONNEL (638 Series)	12,197	7,068	9,632	10,000	15,000		1	
PERSONNEL RECORDS AND IDENTIFICATION OF INDIVIDUALS (649 Series)	19,652	15,294	17,473	17,000	25,000	1		1
UNIFORM AND INSIGNIA, GENERAL (670 Series)	29,282	12,065	20,673	21,000	30,000	1		1
MALE PERSONNEL (AR 670-4)								
FEMALE PERSONNEL (AR 670-30)								
DECORATIONS, AWARDS AND HONORS (672 Series)	30,153	14,202	22,177	22,000	30,000	1	1	4
PERSONNEL INFORMATION SYSTEMS (680 Series)	25,480	9,897	17,688	18,000	25,000	1		4
CIVILIAN PERSONNEL (690 Series)	9,902	7,226	8,564	9,000	12,000	3	5	2
LOGISTICS AND LOGISTICS PLANS (700 and 701 Series)	22,604	11,028	16,816	17,000	25,000	1		2
PRODUCT ASSURANCE (702 Series)	9,535	4,966	7,265	7,000	10,000			
PETROLEUM MANAGEMENT (703 Series)	11,031	5,341	8,286	8,000	12,000			
CATALOGING OF SUPPLIES AND EQUIPMENT (708 Series)	15,873	7,742	11,807	12,000	18,000	1		1
INVENTORY MANAGEMENT (710 Series)	32,074	12,341	22,207	22,000	30,000	1		

TABLE I. (Continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
PROCUREMENT (715 Series)	12,679	7,619	10,149	10,000	15,000			
REQUISITION AND ISSUE OF SUPPLIES AND EQUIPMENT (725 Series)	27,398	11,556	19,477	19,000	28,000	1	1	9
PROPERTY ACCOUNTABILITY (735 Series)	32,985	13,546	23,265	23,000	34,000	1		1
STORAGE AND SUPPLY ACTIVITIES (740 Series)	-	9,690	9,690	10,000	15,000			
INSPECTION OF SUPPLIES AND EQUIPMENT (742 Series)		8,386	8,386	8,000	12,000			
MARKING, PACKING AND SHIPMENT OF SUPPLIES AND EQUIPMENT (745 Series)	19,013	8,363	13,688	14,000	20,000			
MAINTENANCE OF SUPPLIES AND EQUIPMENT (750 Series)	27,097	12,337	19,717	20,000	28,000			1
DISPOSAL OF SUPPLIES AND EQUIPMENT (755 Series)	18,571	9,213	13,892	14,000	20,000			
INTERNATIONAL LOGISTICS (755 Series)	-	3,825	3,825	4,000	6,000			
FLAGS AND GUIDONS (840 Series)	19,257	8,836	14,046	14,000	20,000		1	
HISTORICAL ACTIVITIES (870 Series)	12,877	6,860	9,868	10,000	15,000			
CIVILIAN MARKSMANSHIP (920 Series)	5,383	2,908	4,145	4,000	6,000			
SERVICE ORGANIZATIONS (930 Series)	8,739	4,998	6,868	7,000	10,000	1		4
SECURITY ASSISTANCE (12 Series)	-	1,224	1,224	1,000	2,000		1	
Environment (200 series)				14,000 ^e	20,000 ^e	1		1
Motor Transportation (58 series)				16,000 ^f	23,000 ^f		1	
TOTALS	1,983,370 ^g	1,155,443 ^g	1,138,815 ^g			74	47	189
AVERAGES			13,776	14,000	20,000			

EXHIBIT I. (Continued)

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- a. AG Publications Directorate, Consolidated Report dated 31 March 1981
 - b. Column 1 plus Column 2, divided by 2.
 - c. Judgment by author, approximating informal rule of thumb evident in discussions with personnel of the AG Publications Directorate.
 - d. Abstracted from U. S. Army AG Publications Center, Baltimore, Baltimore Publications Bulletin. Baltimore: 1981.
 - e. Average of all 1981 requirements used in absence of direct data.
 - f. Requirements for the 56 Series used in absence of direct data.
 - g. Includes quantities for sub-series which are not directly detailed in the data shown, above.

TABLE J. 1981 POSTAGE COSTS, Initial Distribution of Army Regulations and Permanent Changes to Distribution A + B

Number of Publications Issues ^a			(4) Size of Distribution ^b	(5) Total Count	(6) Cost of Postage ^c
(1) Army Regulations	(2) Permanent Changes	(3) Total			
5	1	6	7,000	42,000	\$ 26,460
1	0	1	8,000	8,000	5,040
4	6	10	9,000	90,000	56,700
7	1	8	10,000	80,000	50,400
4	1	5	12,000	60,000	37,800
4	1	5	13,000	65,000	40,950
2	2	4	14,000	56,000	35,280
5	9	14	15,000	210,000	132,300
3	3	6	16,000	96,000	60,480
8	4	12	17,000	204,000	128,520
2	3	5	18,000	90,000	56,700
3	1	4	19,000	76,000	47,880
5	2	7	20,000	140,000	88,200
1	0	1	21,000	21,000	13,230
2	1	3	22,000	66,000	41,580
7	10	17	23,000	391,000	246,330
1	0	1	27,000	27,000	17,010
4	0	4	29,000	116,000	73,080
1	0	1	33,000	33,000	20,790
5	1	6	34,000	204,000	128,520

2,075,000^d \$1,307,250^e

a. Abstracted from U. S. Army AG Publications Center, Baltimore, Baltimore Publications Bulletin. Baltimore: 1981.

b. Table I.

c. Table E mailing weights on Book Rate Postal Scale = 63¢ per piece.

d. Army Regulations only = 1,271,000; Permanent Changes only = 804,000.

e. Army Regulations only = \$800,730; Permanent Changes only = \$506,520.

TABLE K. 1981 POSTAGE COSTS, Interim Changes

(1) <u>Publications</u> ^a	(2) <u>Distribution</u> ^b	(3) <u>Total Count</u>	(4) <u>Cost of Postage</u> ^c
4	7,000	28,000	\$ 5,600
2	9,000	18,000	3,600
1	12,000	12,000	2,400
11	13,000	143,000	28,600
5	14,000	70,000	14,000
48	15,000	720,000	144,000
6	16,000	96,000	19,200
20	17,000	340,000	68,000
22	18,000	396,000	79,200
11	19,000	209,000	41,800
17	20,000	340,000	68,000
1	21,000	21,000	4,200
5	22,000	110,000	22,000
16	23,000	368,000	73,600
3	27,000	81,000	16,200
11	29,000	319,000	63,800
3	33,000	99,000	19,800
3	34,000	102,000	20,400
		<u>3,472,000</u>	<u>\$694,400</u>

a. Abstracted from U. S. Army AG Publications Center, Baltimore, Baltimore Publications Bulletin. Baltimore: 1981.

b. Table I.

c. Table E mailing weight on First Class Postal Scale = 20¢ per piece.

TABLE L. SUBSCRIBERS, Distribution A + B^a

SUBJECT	(1)	(2)	(3)		
	Distribution				
	A	B	Average		
ADMINISTRATION (1 Series)	9,346	4,920	7,133		
MANAGEMENT (5 Series)	-	4,044	4,044		
ORGANIZATION AND FUNCTIONS (10 Series)	8,310	4,714	6,516		
ARMY PROGRAMS (11 Series)	7,913	4,079	5,966		
BOARDS, COMMISSIONS AND COMMITTEES (15 Series)	7,424	4,003	5,714		
MANAGEMENT INFORMATION SYSTEMS (18 Series)	5,031	2,943	3,987		
INSPECTIONS AND INVESTIGATIONS (20 Series)	8,859	4,121	6,490		
LEGAL SERVICES (27 Series)	7,966	4,349	6,158		
WELFARE, RECREATION AND MORALE (28 Series)	7,469	3,740	5,065		
FOOD PROGRAM (30 Series)	6,617	3,196	4,907		
CLOTHING AND TEXTILE MATERIAL (32 Series)	5,745	2,676	4,211		
STANDARDIZATION (34 Series)	-	1,919	1,919		
AUDIT (36 Series)	-	2,290	2,290		
FINANCIAL ADMINISTRATION (37 Series)	7,684	4,314	5,999		
MEDICAL SERVICES (Applicable to Medical Activities Only) (40 Series)	2,451	1,624	2,038		
MEDICAL SERVICES (Applicable to All Army Elements) (40 Series)	7,618	4,072	5,845		
NUCLEAR WEAPONS AND MATERIEL (50 Series)	4,257	2,065	3,161		
TRANSPORTATION AND TRAVEL (55 Series)	7,842	4,348	6,095		
SURFACE TRANSPORTATION (56 Series)	-	2,716	2,716		
AIR TRANSPORTATION (59 Series)	4,361	2,456	3,049		
EXCHANGE SERVICE (60 Series)	-	1,787	1,787		
POSTAL SERVICE (66 Series)	7,947	3,905	5,926		
COURIER SERVICE (66 Series)	-	1,554	1,554		
RESEARCH AND DEVELOPMENT (70 Series)	-	1,822	1,822		
FORCE DEVELOPMENT (71 Series)	5,256	2,657	3,957		
EXPLOSIVES (75 Series)	5,455	2,651	4,055		
AVIATION (96 Series)	3,852	2,422	3,137		
COMMUNICATIONS—ELECTRONICS (106 Series)	7,698	4,077	5,888		

TABLE L. (Continued)

	(1)	(2)	(3)		
AUDIOVISUAL SERVICES (108 Series)	-	3,598	3,598		
ENVIRONMENTAL SERVICES (118 Series)	-	2,485	2,485		
ARMY NATIONAL GUARD (130 Series)	3,043	1,853	2,448		
ARMY NATIONAL GUARD AND ARMY RESERVE (136 Series)	6,076	3,715	4,895		
ARMY RESERVE (140 Series)	5,258	3,314	2,486		
RESERVE OFFICER'S TRAINING CORPS (146 Series)	-	1,881	1,881		
RELIGIOUS ACTIVITIES (166 Series)	5,689	2,630	4,159		
MILITARY POLICE (190 Series)	7,354	3,882	5,618		
CRIMINAL INVESTIGATIONS (196 Series)	4,807	2,794	3,799		
INSTALLATIONS (210 Series)	5,863	3,532	4,697		
FIELD ORGANIZATIONS (220 Series)	7,618	3,732	5,675		
NON-APPROPRIATED FUNDS AND RELATED ACTIVITIES (230 Series)	7,869	4,008	5,938		
INDUSTRIALIZED ACTIVITIES AND LABOR RELATIONS (235 Series)	1,519	1,145	1,332		
NATIONAL CEMETERIES (290 Series)	1,268	978	1,123		
MILITARY PUBLICATIONS (310 Series)	10,073	5,601	7,837		
AUTHORIZED ABBREVIATIONS AND BREVITY CODES (AR 310-50)					
REPORTS AND STATISTICS (335 Series)	5,118	3,335	4,226		
OFFICE MANAGEMENT (340 Series)	9,567	4,689	7,128		
PREPARING CORRESPONDENCE (AR 340-16)	10,125 ^b				
THE ARMY FUNCTIONAL FILES SYSTEMS-- GENERAL PROVISIONS (AR 340-18-1)					
MAINTENANCE AND DISPOSITION OF PLANNING, PROGRAMING, MANAGEMENT, HISTORICAL, AND COMBAT DEVELOPMENT FUNCTIONAL FILES (AR 340-18-2)					
MAINTENANCE AND DISPOSITION OF FINANCE AND FISCAL FUNCTIONAL FILES (AR 340-18-3)					
MAINTENANCE AND DISPOSITION OF LEGAL AND INFORMATION FUNCTIONAL FILES (AR 340-18-4)					
MAINTENANCE AND DISPOSITION OF INTELLIGENCE SECURITY, MILITARY POLICE, AND MAPPING FUNCTIONAL FILES (AR 340-18-5)					
MAINTENANCE AND DISPOSITION OF GENERAL PERSONNEL MANAGEMENT AND SAFETY FUNCTIONAL FILES (AR 340-18-6)					
MAINTENANCE AND DISPOSITION OF MILITARY PERSONNEL FUNCTIONAL FILES (AR 340-18-7)					
MAINTENANCE AND DISPOSITION OF CIVILIAN PERSONNEL FUNCTIONAL FILES (AR 340-18-8)					
MAINTENANCE AND DISPOSITION OF MEDICAL FUNCTIONAL FILES (AR 340-18-9)					
MAINTENANCE AND DISPOSITION OF TRAINING AND EDUCATION FUNCTIONAL FILES (AR 340-18-10)					
MAINTENANCE AND DISPOSITION OF COMMUNICATIONS FUNCTIONAL FILES (AR 340-18-11)					
MAINTENANCE AND DISPOSITION OF TRANSPORTATION FUNCTIONAL FILES (AR 340-18-12)					

— TABLE L. (Continued)

	(1)	(2)	(3)		
MAINTENANCE AND DISPOSITION OF RESEARCH AND DEVELOPMENT FUNCTIONAL FILES (AR 340-13-12)					
MAINTENANCE AND DISPOSITION OF LOGISTICS FUNCTIONAL FILES (AR 340-13-14)					
MAINTENANCE AND DISPOSITION OF FACILITIES FUNCTIONAL FILES (AR 340-13-15)					
MAINTENANCE AND DISPOSITION OF CIVIL AFFAIRS FUNCTIONAL RECORDS (AR 340-13-16)					
TRAINING (350 Series)	9,053	4,855	6,954		
SCHOOLS (361 Series)	8,715	4,661	6,688		
DEPENDENTS' EDUCATION (362 Series)	2,444	1,624	2,034		
ARMY INFORMATION (380 Series)	8,093	4,528	6,311		
SECURITY (390 Series)	9,085	4,757	6,921		
SAFEGUARDING DEFENSE INFORMATION (AR 390-5)					
MILITARY INTELLIGENCE (391 Series)	6,414	3,468	4,941		
SAFETY (395 Series)	9,313	4,198	6,756		
REAL ESTATE (405 Series)	-	1,656	1,656		
CONSTRUCTION (415 Series)	-	1,618	1,618		
FACILITIES ENGINEERING (420 Series)	2,985	1,954	2,470		
EMERGENCY EMPLOYMENT OF ARMY AND OTHER RESOURCES (500 Series)	5,508	2,923	4,216		
MILITARY OPERATIONS (525 Series)	5,533	3,004	4,269		
OPS AND SIGNAL SECURITY (530 Series)	-	2,847	2,847		
FOREIGN COUNTRIES AND NATIONALS (580 Series)	2,598	1,581	2,090		
MANPOWER AND EQUIPMENT CONTROL (570 Series)	-	3,121	3,121		
PERSONNEL, GENERAL (600 Series)	9,248	5,183	7,216		
PERSONNEL, PROCUREMENT (601 Series)	7,813	4,381	6,097		
PERSONNEL SECURITY CLEARANCE (604 Series)	8,374	4,594	6,484		
PERSONAL AFFAIRS (608 Series)	8,413	4,504	6,459		
PERSONNEL SELECTION AND CLASSIFICATION (611 Series)	8,325	4,910	6,618		
PERSONNEL PROCESSING (612 Series)	6,331	3,381	4,856		
ASSIGNMENTS, DETAILS AND TRANSFERS (614 Series)	7,548	4,490	6,019		
PERSONNEL UTILIZATION (616 Series)	-	3,275	3,275		
EDUCATION (621 Series)	6,969	3,858	5,414		
PERSONNEL EFFICIENCY RATINGS (629 Series)	8,995	4,142	6,569		
PROMOTIONS (634 Series)	7,682	3,662	5,672		
PROMOTION OF OFFICERS ON ACTIVE DUTY (AR 634-100)					
PERSONNEL ABSENCES (639 Series)	7,994	3,703	5,849		
LEAVE, PASSER, ADMINISTRATIVE ABSENCE AND PUBLIC HOLIDAYS (AR 639-5)					

TABLE L. (Continued)

	(1)	(2)	(3)		
ABSENCE WITHOUT LEAVE AND DESERTION (AR 630-10)					
STANDARDS OF CONDUCT AND FITNESS (632 Series)	-	4,236	4,236		
PERSONNEL SEPARATIONS (635 Series)	8,147	4,447	6,297		
DECEASED PERSONNEL (638 Series)	5,965	3,505	4,735		
PERSONNEL RECORDS AND IDENTIFICATION OF INDIVIDUALS (640 Series)	7,575	4,265	5,920		
UNIFORM AND INSIGNIA, GENERAL (670 Series)	9,129	4,117	6,623		
MALE PERSONNEL (AR 670-8)					
FEMALE PERSONNEL (AR 670-30)					
DECORATIONS, AWARDS AND HONORS (672 Series)	9,324	4,746	7,035		
PERSONNEL INFORMATION SYSTEMS (680 Series)	7,825	3,892	5,858		
CIVILIAN PERSONNEL (690 Series)	3,826	2,398	3,112		
LOGISTICS AND LOGISTICS PLANS (700 and 701 Series)	7,877	4,206	6,041		
PRODUCT ASSURANCE (702 Series)	3,807	2,102	2,954		
PETROLEUM MANAGEMENT (703 Series)	4,663	2,277	3,470		
CATALOGING OF SUPPLIES AND EQUIPMENT (708 Series)	6,406	3,109	4,757		
INVENTORY MANAGEMENT (710 Series)	8,590	3,857	6,224		
PROCUREMENT (715 Series)	4,929	2,798	3,863		
REQUISITION AND ISSUE OF SUPPLIES AND EQUIPMENT (725 Series)	8,864	3,975	6,419		
PROPERTY ACCOUNTABILITY (735 Series)	9,275	4,305	6,790		
STORAGE AND SUPPLY ACTIVITIES (740 Series)	-	3,714	3,714		
INSPECTION OF SUPPLIES AND EQUIPMENT (742 Series)	-	3,297	3,297		
MARKING, PACKING AND SHIPMENT OF SUPPLIES AND EQUIPMENT (746 Series)	7,065	3,391	5,228		
MAINTENANCE OF SUPPLIES AND EQUIPMENT (750 Series)	8,516	4,325	6,420		
DISPOSAL OF SUPPLIES AND EQUIPMENT (756 Series)	7,354	3,719	5,536		
INTERNATIONAL LOGISTICS (756 Series)		1,610	1,610		
FLAGS AND GUIDONS (840 Series)	8,137	4,042	6,089		
HISTORICAL ACTIVITIES (870 Series)	6,447	3,419	4,933		
CIVILIAN MARKSMANSHIP (900 Series)	2,650	1,507	2,078		
SERVICE ORGANIZATIONS (900 Series)	4,662	2,616	3,639		
SECURITY ASSISTANCE (12 Series)	-	289	289		
TOTALS ^c	635,908	381,032			
AVERAGES ^c	6,115	3,703	4,909		

TABLE L. (Continued)

-
- a. AG Publications Directorate, Consolidated Report dated 31 March 1981.
 - b. Largest single number of subscribers for any distribution A or B publication.
 - c. Includes quantities for sub-series which are not directly detailed in the data shown, above.

TABLE M. AG PUBLICATIONS DIRECTORATE CONSOLIDATED REPORT DATA, Abstract
from 31 March 1981 Issue

TOTAL NUMBER OF SUBSCRIBER ACCOUNTS: 1,399,363

TOTAL NUMBER OF COPIES ORDERED: 4,753,103

SOURCE: AG Publications Directorate, Consolidated Report dated 31 March
1981.

TABLE N. DISTRIBUTION FORMULA USE IN 1981, Permanent Changes^{a,b}

Recipient	Distribution Formula				=	Frequency
	A	B	C	D		
ACTIVE	24	11	23	14	=	72
GUARD	29	2	6	29	=	66
RESERVE	30	4	8	26	=	68
FREQUENCY	100		106		=	206
	48.5%		51.5%			

a. U. S. Army AG Publications Center, Baltimore, Baltimore Publications Bulletin. Baltimore: 1981.

b. In March 1982, when data for this table was developed, only 75 of the permanent changes published in 1981 still remained in the current regulation collection of the U. S. Army War College Library. The data presented, therefore, is a sample of 75 - 1981 permanent change distribution schemes.

TABLE O. DISTRIBUTION FORMULA USE IN 1981, Interim Changes^{a,b}

Recipient	Distribution Formula				=	Frequency
	A	B	C	D		
ACTIVE	120	39	51	19	=	229
GUARD	100	25	22	63	=	210
RESERVE	128	20	20	59	=	227
<hr/>						
FREQUENCY	432		234		=	666
	64.9%		35.1%			

a. U. S. Army AG Publications Center, Baltimore, Baltimore Publications Bulletin. Baltimore: 1981.

b. In March 1982, when data for this table was developed, only 161 of the interim changes published in 1981 still remained in the current regulation collection of the U. S. Army War College Library. The data presented, therefore, is a sample of 161 - 1981 interim change distribution schemes.

TABLE P. 1981 POSTING TRANSACTION REQUIREMENTS, Permanent Changes ^{a,b}

Requirement	Distribution Formula				Total
	A	B	C	D	
PAGE CHANGE	815	61	307	453	
PEN & INK	38	0	0	111	
BURDEN	853	61	307	564	= 1,785
	914		871		
SHARE	47.7%	3.4%	17.1%	31.5%	
	51.1%		48.6%		

AVERAGE: 23.8 Posting Transactions per Permanent Change

a. U. S. Army AG Publications Center, Baltimore, Baltimore Publications Bulletin. Baltimore: 1981.

b. In March 1982, when data for this table was developed, only 75 of the permanent changes published in 1981 still remained in the current regulation collection of the U. S. Army War College Library. The data presented, therefore, is a sample of the internal posting instructions contained in 75 - 1981 Permanent Changes to Army Regulations.

TABLE Q. 1981 POSTING TRANSACTION REQUIREMENTS, Interim Changes^{a,b}

Recipient	Distribution Formula				=	Total
	A	B	C	D		
ACTIVE	1,096	354	183	212	=	1,845
GUARD	716	577	68	323	=	1,684
RESERVE	1,369	377	69	363	=	2,178
BURDEN	3,181	1,308	320	898	=	5,707
	4,489		1,218			
SHARE	55.7%	22.9%	5.6%	15.7%		
	78.7%		21.3%			

AVERAGE: 35.4 Posting Transactions per Interim Change^c

a. U. S. Army AG Publications Center, Baltimore, Baltimore Publications Bulletin. Baltimore: 1981.

b. In March 1982, when data for this table was developed, only 161 of the interim changes published in 1981 still remained in the current regulation collection of the U. S. Army War College Library. The data presented, therefore, is a sample of the internal posting instructions contained in 161 - 1981 Interim Changes to Army Regulations.

c. A given transaction may range from addition and/or deletion of a single word -- or even a punctuation mark -- to elaborate changes of the content of a table and the replacement of random phrases and paragraphs. With the exception of two interim changes which actually provided equivalent pages with which to replace those that had been made obsolete, all of these actions represent pen and ink transactions.

TABLE R. SUBSCRIBER MANPOWER, Subscription Fulfillment, Notional Estimates of Work Required and Time Consumed in Handling and Maintaining Regulatory Publications^a

Stage	Step	Sub-Step	Action	Minutes Consumed		
				New Army Regulation	Permanent Change	Interim Change
A			Item enroute by mail or distribution	(L	A	G)
			<u>Received at Mail Room</u>	2.0	2.0	2.0
	1		Open package			
	2		Determine Contents; decide appropriate action			
		a	Act later	L	A	G
		b	Act now			
	3		Consult distribution scheme			
	4		Distribute			
		a	Mark and/or			
		b	Place in distribution box			
B			Pick-up or Delivery	(L	A	G)
			<u>Received at Using Activity</u>	1.0	1.0	1.0
	1		Determine Content			
	2		Re-distribute to user			
			Pick-up or Delivery	(L	A	G)
C			<u>Received by User</u>	1.0	2.0	2.0
	1		Determine Content			
	2		Decide appropriate action			
		a	Send info copy to others to advise of change in being			
		b	Evaluate posting action involved			
	3		Assign posting work to a clerk			
		a	Later	L	A	G
		b	Now			
	4		Re-distribute to Clerk (or does the work himself (if so, skip to Stage E)			
			Pick-up or Delivery	(L	A	G)

(Continued)

TABLE R. (Continued)

Stage	Step	Sub-Step	Action	Minutes Consumed		
				New Army Regulation	Permanent Change	Interim Change
D			<u>Received by Posting Clerk</u>	1.0	2.0	3.0
	1		Determine content			
	2		Decide appropriate action			
		a	Post Later	(L	A	G)
		b	Post Now			
E			<u>Action</u>			
	1		Obtain appropriate binder	1.0	1.0	1.0
	2		Locate appropriate publication	0.5	0.5	0.5
	3		Compare new with old to determine detail of the work required	1.0	2.0	3.0
	4		Remove staples	0.0	0.5	0.5
	5		Execute first requirement			
		a	Locate old pages (old text)	0.0	0.5	1.0
		b	Pull (delete)	0.2	0.5	1.0
		c	Check-off transmittal instruction	0.0	0.2	0.2
		d	Locate new pages (new text)	0.0	0.5	1.0
		e	Insert (add)	0.5	0.5	1.0
		f	Check-off transmittal instruction	0.0	0.2	0.2
			(Subtotal, Step 5)	(0.7)	(2.4)	(4.4)
X			Repeat Step 5 as required by number of internal requirements contained in the given publication:	0.0	26.4	74.8
<div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> DELETE/ADD CYCLES: 1981 Averages ^b Permanent Changes: 11 Additional Interim Changes: 17 Additional </div>						
	6		File annotated transmittal sheet	0.0	0.5	0.5
	7		Annotate basic regulation to show inclusion of the change	0.0	1.0	1.0

(Continued)

TABLE R. (Continued)

Stage	Step	Sub-Step	Action	Minutes Consumed		
				New Army Regulation	Permanent Change	Interim Change
F	8		Close binder	0.2	0.2	0.2
			<u>Return Binder to Shelf</u>	0.5	0.5	0.5
			<u>TOTAL SUBSCRIBER TIME CONSUMED</u>	<u>8.9</u>	<u>42.0</u>	<u>94.4</u>

SUBSCRIBER MANPOWER CONSUMPTION: 1981 Averages

Army Regulations:	0.15 subscriber manhours
Permanent Changes:	0.70 subscriber manhours
Interim Changes:	1.57 subscriber manhours

a. Author discussions with commanders, NCO's and posting clerks from many backgrounds confirm that the essence of each step shown in this table is performed -- but the precise sequence shown is an idealized one. Every unit and activity will do things differently. The time estimates shown are notional, although each is based on the author's observations and experiments. The commonsense of each time estimate has been reviewed by a variety of people who have experience in handling or in supervising publications activity. Particularly in the instance of interim changes, the author feels that the time estimates are conservative.

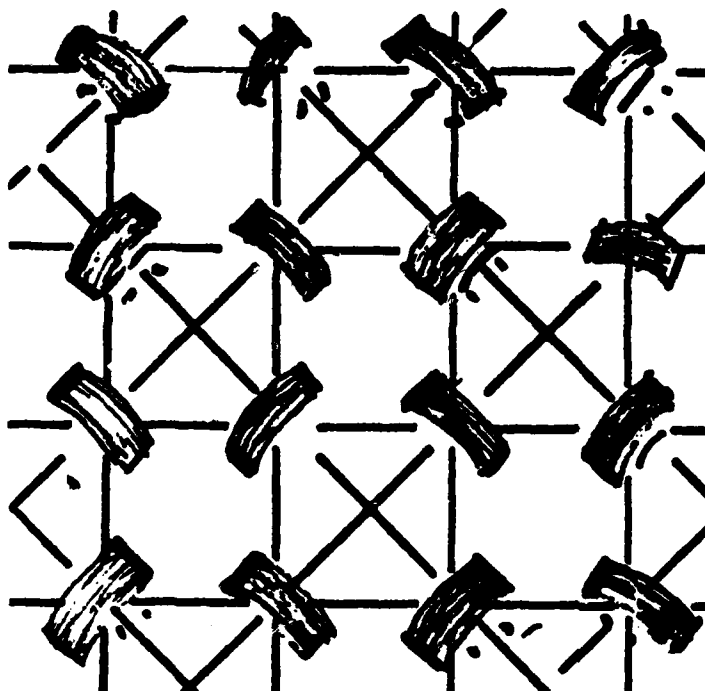
b. Table P and Table Q averages halved to reflect a complete delete/add cycle, less one cycle completed in the initial Step 5.

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**Position Paper
Internal Revenue Manual**

**IRS Proposal To Redesign The Internal Revenue Manual
As An Electronically Composed, Commercially Maintained
Looseleaf Service System**



**Submitted to
Joint Committee on Printing
July 10, 1975**

**Prepared by
Publishing Services Branch
Internal Revenue Service**

SUMMARY

The attached position paper details the Internal Revenue Service's proposal to create a new publishing and distribution system for the Internal Revenue Manual and lists the reasons why a Joint Committee on Printing waiver is needed to implement it. The paper proposes that an outside contractor be employed to establish and maintain a complete Manual looseleaf service system for the IRS. The contractor would handle all production work from the approved manuscript stage through shipment of printed transmittals to the users. The new system would be similar in appearance and operation to the commercial tax services used by IRS subscribers except that the new Manual system would also utilize the advantages of computerized typesetting and data banks. Built into the new system would be the benefits of cost and time savings, increased efficiency, faster service and improved usability.

Here, listed briefly, are some of the beneficial highlights of the proposed system:

1. Reduction in the production time for printing Manual material from one month to 72 hours. (See attached time comparison chart.)
2. An estimated \$340,000 annual savings. (See attached cost comparison chart.) For the first year, these savings would be absorbed by initial start-up costs, transcribing basic text, new binders, etc.
3. Elimination of the need for most Manual and ADP Handbook Supplements, which now must be reissued as transmittals at duplicate printing costs. (The proposed system's updating, production and distribution speed will allow IRS to issue transmittals faster than it can now issue most supplements.)
4. Additional time and cost savings by using lighter weight, less bulky paper stock; using improved distribution methods; obviating need for originators to prepare camera copy for printing; eliminating need for district offices to repackage and redistribute copies of transmittals to area offices; using computer tapes from the IRS Technical Reference Information (TRI) System for electronic composition of Manual material.
5. Up to 60 percent reduction, for one-third of the system, in the number of text pages now set in mono-spaced typewriter type by resetting them in electronically composed proportionally spaced type. (For example, with typewriter type, a lower case "i" takes up the same amount of space on the page as a capital "M". With proportionately spaced type, a lower case "i" takes up only one-third the space of a capital "M".)

6. Faster, less expensive distribution through use of computerized distribution lists, specially contracted mail services and commercial air priority services.

7. Quick, easy revisions and updating by computer.

8. Comprehensive, cross-referenced, in-depth topical indexes, a first for the Manual.

9. Separate, compactly bound Manual Handbooks.

10. For the first time, an inventory of all or any part of the Manual for supplying copies to new employees, new organizations, etc.

11. Uniform, easily readable typeface throughout all parts of the Manual, printed on convenient 6" x 9" page format, contained in compact, easily handled binders.

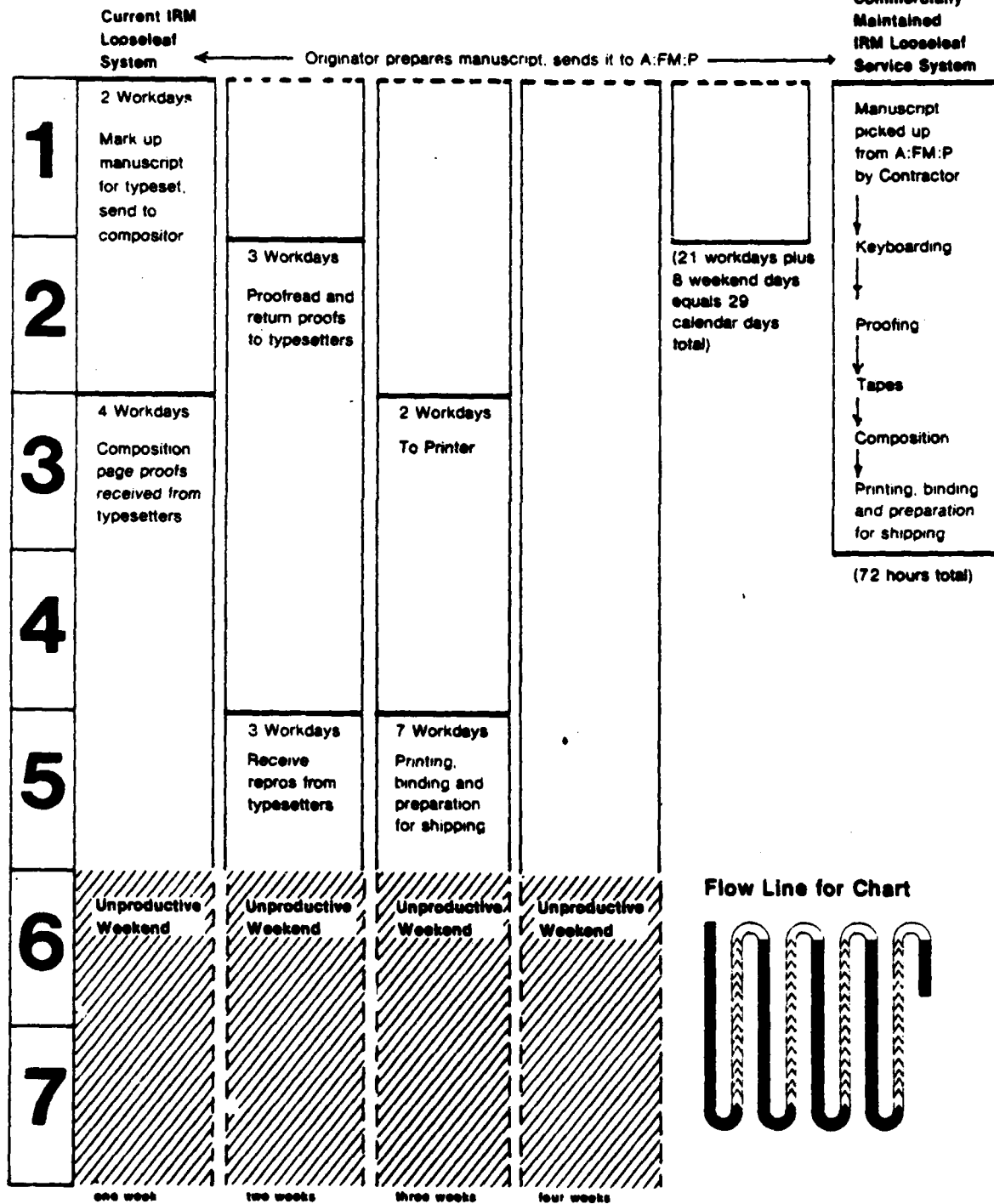
12. IRS capability, for the first time, to supply depository libraries with copies of the Manual.

13. Automatic IRS compliance to Freedom of Information (FOI) requirements. The proposed system will make available, as a by-product for FOI, current topical indexes to meet quarterly indexing requirement; easy, fast updated reprints of all or any part of the Manual; and quick research and compilations from Manual data bank (by using TRI System) of any specific or categorized information requested by the public. Included in this item is the keystroke savings available to the entire legal publishing industry through the device of making available, on a timely basis, duplicate tapes at a nominal cost to any interested parties.

In sum, the total systems approach to this new concept requires a production source that has in-house capacity to handle all facets of the work. The present requirement of GPO production of negatives on the Linotron 1010 and that of printing by a GPO commercial contractor prevent the implementation of the plan; hence, our case for requesting such a waiver from the Joint Committee on Printing.

Comparison of IRS Proposed IRM Looseleaf System with Current IRM Looseleaf System

Comparing time required to typeset 100 manuscript pages (36 typeset pages) of Manual Transmittal and print 10,000 copies



Cost Comparison of IRM System

Based on various FY-74 data gathered from available record sources and using parameters listed below to calculate estimates

	Approx. No. of Issuances Per Year	Present System			Proposed System			Cost Savings Per Year
		Comp	Printing	GPO Surcharge	Comp	Printing	GPO Surcharge	
Manual Transmittals								
(4800 printed pages including blanks) Average quantity of 4750 copies	650	\$81,000	\$183,000	\$17,000	\$23,000	\$183,000	-0-	\$75,000
Manual Supplements								
(1,000 printed pages) Average quantity of 12,500 copies	165	Camera Copy	\$67,000	\$4,000	\$2,000	\$11,000	-0-	\$58,000
ADP Handbook Transmittals								
(17,000 printed pages) Average quantity of 2900 copies	360	Camera Copy	\$308,000	\$20,000	\$13,000	\$126,000	-0-	\$189,000
ADP Handbook Supplements								
(450 printed pages) Average quantity of 6600 copies	40	Camera Copy	\$35,000	\$2,000	\$2,000	\$17,000	-0-	\$18,000
Totals	1215	\$81,000	\$593,000	\$43,000	\$40,000	\$337,000	-0-	\$340,000

Parameters

- 1) Changes for updating estimated to be an average of 10 percent
- 2) Blank pages are estimated to be approximately 10 percent of total printed pages

Position Paper

IRS PROPOSAL TO REDESIGN THE INTERNAL REVENUE MANUAL
AS AN ELECTRONICALLY COMPOSED, COMMERCIALY MAINTAINED
LOOSELEAF SERVICE SYSTEM

The graphics communications industry is fast becoming one of the most sophisticated industries in the United States. This is evidenced by the tremendous technological advances made in the state of the art during the last decade. (See attached U.S. Department of Labor Bulletin 1774, "Outlook for Technology and Manpower in Printing and Publishing.) Along with the technological changes have come the more subtle changes in the basic assumptions of what constitute communications and printing. One current trend is the move away from thinking of a printing job as a series of separate operations--manuscript preparation, type composition, proofreading, printing, binding and distribution--to viewing it as a total system. Due to the increasing complexity and needs of government programs, printing managers are more and more considering their agencies' printing jobs as systems or regularly interacting and interdependent groups of items forming unified wholes. It is precisely to this new trend of thinking in terms of systems that this position paper is directed, particularly as it applies to the Internal Revenue Manual.

The Internal
Revenue Manual

The Internal Revenue Manual (IRM) is the administrative and operations "bible" of the Internal Revenue Service. Contained within its more than 38,000 pages of text material are the programs, policies, procedures, organizations, guidelines, instructions and basic information used by more than 80,000 employees to manage and operate the IRS. It is the most important work tool in the IRS organization.

The IRM is composed of 11 multi-chaptered parts and a set of 205 ADP Handbooks, all of which are in a constant state of being updated, revised and rewritten. Nearly 25,000 pages of the IRM are revised, printed and distributed each year. The Publishing Services Branch last year, for example, printed and distributed nearly 1,500 separate IRM and ADP Handbook transmittals and supplements, with composition and printing costs alone amounting to more than \$717,000.

Manual supplements and transmittals are issued on an average of more than five per workday, and they range in size from a minimum of two pages to more than 1,000 pages. Most Manual issuances, however, contain less than 100 pages, and each takes an average of six weeks' time to print and distribute. To assure that the proper sections, chapters or parts of the Manual are received by the appropriate users in IRS' regions, service centers, and district and area offices, the IRS employs more than 500 different distribution list patterns.

Proposal to Make the IRM
A Looseleaf Service System

With the many innovations and improvements in the state of the art to draw from, we have for some time believed that a better, less expensive, more efficient and more expeditious way of processing so important a document as the IRM could be developed. Our subsequent study and research for a new IRM program has resulted in a plan we feel is the most economical and most feasible for servicing the IRS Manual.

Briefly, our proposal is to have an outside contractor establish and maintain a complete IRM looseleaf service system, handling all the work in his shop from the approved manuscript stage through shipment of the finished product to the user. The commercial firm would utilize all the advantages of electronic composition and the looseleaf system expertise it has developed through many years of professional experience. Our plan contains all the benefits of cost and time savings, improved efficiency and better usability. It also presents one problem: its successful implementation depends on IRS obtaining a waiver from certain government printing regulations, specifically the regulations which prohibit agencies from going directly to commercial contractors for printing services. Hence, the purpose of this position paper is to present our case for requesting a waiver from the Joint Committee on Printing.

The Case For a New
IRM Looseleaf System

Admittedly, the IRM is already a looseleaf system, and it must remain one because only a looseleaf system lends itself so appropriately to the large number of revisions and changes intrinsically necessary in this kind of manual document. But the present IRM looseleaf system is antiquated and one fraught with high operating costs, a hotchpotch of different formats and type styles, wasted space, and slow printing and distribution procedures. Because of the time-consuming tasks Publishing Services must perform to process Manual Transmittals and Supplements from IRS through typesetter, proofreaders, printers, and distribution processes, an average of six weeks passes before critically needed new procedures and instructions are received by field employees. The problems created by this delay play hob with program operations throughout the Service. The need for a new, improved Manual material processing program has become increasingly critical. We are convinced, after many months of intense study and research, that our proposal for an

electronically composed, commercially maintained looseleaf service system is the best possible solution to the considerations of timely delivery, Freedom of Information dissemination, and adequate topical indexing.

The Great Importance of Timely Transmittals

The IRM is the official tool for providing uniform operating instructions to thousands of IRS employees who deal with tax situations every day. Its effectiveness hinges on the ability to issue and distribute new and revised procedures, via Manual Transmittals, to Service personnel on a timely basis. Extremely severe consequences result if the operating instructions are late in reaching field offices. Not receiving new procedures and tax data on time, for example, not only causes field employees to work with outdated and obsolete information; but taxpayers, too, suffer from receiving erroneous information and incorrect forms from the uninformed employees. In addition, this damages the public confidence and image of the Service.

At present, we try to cope with the problem by issuing interim Manual information to field offices until the Manual Transmittals can be printed and distributed. This interim information is issued in the form of Manual Supplements, Information Notices, facsimile messages, memoranda and even telegrams. Because these temporary issuances contain only basic information which will be verified in the Manual Transmittals later, each field office must make its own interpretation of the interim data. As a result, field offices often operate with less information than is desirable.

New System Would Save Time

Our proposed new looseleaf service system would reduce the time for typesetting, proofreading, printing and shipping Manual material from one month (720 hours) to 72 hours. We have visited and talked with representatives of at least three major looseleaf service firms, and each can guarantee shipment of up to 36-page transmittals within 72 hours. The companies can assure this short processing time, because they would be doing the work in house and in one continuous, uninterrupted operation. Just this huge savings in processing time, from one month to three days, we feel, is justification enough to implement our proposed new system for the IRM.

(A day-by-day processing time comparison chart is attached to the end of this position paper. It illustrates graphically the time required to process a Manual Transmittal by the present IRM system as compared to the 72-hour service offered by the proposed new system.)

Cost Savings

The proposed new IRM system would save an estimated \$340,000 a year in composition and printing costs alone. These annual cost savings would be realized by:

1. Reducing the number of pages to be printed and distributed.
2. Eliminating most Manual and ADP Handbook Supplements--eliminate duplicate distribution, in other words.

In FY-74 we spent approximately \$81,000 to typeset 650 Manual Transmittals. Under an operational new system, this same Manual material would have been set in type electronically for about \$23,000 and at a cost savings of \$58,000. Actually, the cost of setting a page of Manual material in hot metal, as we do now, costs about the same as setting the page by computer. The cost savings come from the fact that with electronic composition only the word changes need to be transcribed and proofread, while conventional composition requires resetting and proofreading each page in its entirety.

In the same period last year, we also printed from originators' typewritten camera copy 165 Manual Supplements, 360 ADP Handbook Transmittals, and 40 ADP Handbook Supplements at a cost of \$436,000. Had the proposed system been in operation, most of the supplements would have been eliminated, and the ADP Handbooks would have been set and printed at a reduced cost of \$171,000 -- a savings of \$265,000. The savings would have been realized by the elimination of supplements and by the reduction (through electronic composition) of the number of handbook pages to be printed.

(A cost analysis spread sheet attached at the end of this paper compares the dollar composition and printing costs of the current IRM system with those of the proposed system and shows the potential costs benefits of the latter.)

Besides the composition and printing cost savings outlined above, the new IRM publishing system would generate the additional cost benefits listed below. These items have not been costed, but are obvious. The savings would be realized by:

1. Use of lighter weight and less bulky paper.
2. Use of improved distribution methods.

3. Eliminating the need for the Accounts and Data Processing Division to keyboard and prepare camera copy for ADP Handbooks and their supplements, as well as precluding the need for other branches and divisions to prepare camera copy for Manual Supplements and some transmittals.
4. Eliminating the need for district offices to repackage and redistribute copies of Manual material to subordinate offices.
5. Using computer tapes from IRS' Technical Reference Information System for electronic composition of Manual material.
6. Eliminating, to a large degree, the double and sometimes triple distribution of instructions to all concerned individuals.

Start-Up Costs

As in implementing any new program, the new IRM system would require some initial start-up expenditures. Transcription of the entire Manual, that is keyboarding it onto magnetic tape, would cost an estimated \$165,000. A large part of this cost, however, would be shared by the Service's Technical Reference Information (TRI) System.

Recent developments indicate that we are going to transcribe large portions of the IRM for the TRI System. Already we have keyboarded and placed on tapes Part IV, Audit, and we plan to use these tapes to set and print copies of Part IV for field use. In addition, Part V, Collection, and Part VIII, Appellate, are soon to be implemented for the Technical Reference Information program.

This new development affords us multiple use of the keyboarded material and means that we would not in fact have a start-up keyboarding charge for the new IRM system because the keyboarding is required for use of the TRI program.

Initial costs for reprinting all parts of the IRM for the new Manual system, while actually an out-of-pocket cost, is not at this point a consideration since all parts and chapters of the Manual need to be reprinted periodically. Printing required by the new system would be only an acceleration of reprinting those parts and chapters which have not been updated --typically, Part I, Administration, which has never been totally reprinted since its beginning issuance on July 1, 1954.

There would, however, be first year costs for new binders. The proposed change in format to 6" x 9" pages with five-hole punching would require new binders for the entire Service at an estimated cost

of \$200,000. (A review of the condition of the binders for the present Manual, involving about 50,000 in quantity, shows that many are in poor condition. Existing binders in good condition can be reused for other purposes with no loss. Those in poor condition can be discarded, again with little loss since their useful life has been completed.)

New System Would Reduce Number of Pages

Certain amounts--approximately one-third-- of the IRM text is now set in mono-spaced typewriter type. For example, nearly all Manual Supplements and all ADP Handbooks and ADP Handbook Supplements are now issued with typewriter text. Redesigning and setting this Manual material in electronically composed, proportionately spaced type would result in up to 60 percent reduction in the number of pages that must be printed and distributed, a real dollar savings in printing and shipping costs.

The new system would also include printing Manual material on the kind of reinforced lightweight paper stock used by all the commercial looseleaf service firms. Ideally suited for looseleaf systems because of its strength, lighter weight and compactness, the paper would not only conserve space in the binders but would reduce postage and freight costs by its lighter shipping weight. (It must be noted that the lightweight "bible" paper would be feasible only with the new system's 6" x 9" page size. As an 8" x 10½" looseleaf page size, the paper would tend to tear and wrinkle too easily. This is the reason commercial looseleaf firms use the 6" x 9" size.)

Better Utilization of Manpower

With the new system, the long, circuitous journey of copy, involving preparation and transmission to the outside typesetter, back to IRS for proofreading, out to the typesetter again for corrections and repros, and then on to the printer would be eliminated. Also eliminated would be the need for folioing manuscript pages and marking transmittal numbers on each ADP Handbook page. This work would all be done by the commercial contractor in his plant, quickly and smoothly, from manuscript to shipment of printed copies.

In addition, personnel throughout all IRS offices would no longer need to prepare typed camera copy for printing supplements, and data processing employees would no longer have to keyboard and prepare ADP

Handbook camera copy. Nor would district office personnel need to redistribute printed copies of Manual material to area offices. Under the new system, the contractor would keyboard and typeset all manual text from approved manuscripts; and new, improved and faster distribution systems would assure quick delivery of the material to each post of duty.

Eliminates Most Supplements

As we mentioned before, when lack of time or other reasons preclude making changes or adding new material directly to the body of the IRM, we must issue Manual Supplements or ADP Handbook Supplements as interims. Each time a supplement is issued, the Manual users must enter pen and ink references in the basic text to indicate that the main Manual text is supplemented by one or more Manual Supplements. Besides causing multiple reference points on one subject, Manual Supplements add unnecessary bulk to an already bulky IRM system. The whole Manual Supplement program, in fact, is somewhat of a risky operation because it depends on hundreds of employees making hand pen and ink annotations to the basic Manual.

Often, a large number of supplements become attached to a particular IRM chapter, each updating or revising in part other supplements. The result is an amalgam of fragmented information, causing confusion and difficulty for the Manual user, especially if one or two of the supplements happen to get mislaid or lost, or some employees forget to make the proper pen and ink references in the basic text. In addition, Manual Supplements are wasteful and costly because they create duplication of printing and distribution--eventually, almost every Manual Supplement must be reprinted and reissued as a Manual Transmittal.

The new IRM system we propose would eliminate the need for issuing most of the supplements. With all the Manual's basic data stored in the computer, revisions could be made directly to the body of the IRM faster than supplements can be issued now under the current IRM system. The computer would simply produce revised pages for each section of the IRM affected by the revisions or new material. These new pages would be printed as Manual Transmittals and shipped to the appropriate users within 72 hours. Thus, the new system's ability to process Manual Transmittals quickly within three days would eliminate the need for nearly all Manual Supplements and ADP Handbook Supplements and the problems they create.

Improved Distribution

IRS distributes Manual material to its employees on an as-needed basis so that each Manual user receives only those sections or chapters of the IRM that are applicable to his particular phase of work. To assure that each user receives the appropriate Manual Transmittals, the Service uses more than 500 coded distribution list patterns. The distribution lists assign a predetermined number of transmittal copies to each regional office, service center and district. When district offices receive shipments of Manual material, they must redistribute copies to their respective subordinate offices. The current system requires 10 days or more to distribute a Manual Transmittal down to the district office level. Then, redistributing copies to district area offices takes an additional three to five days. On an average, completing distribution of a Manual issuance requires from 15 to 20 days.

Under the new IRM system, distribution lists would be computerized, affording all the advantages of quick, easy updating and the computer refinements of combined distribution patterns, specialized distribution lists and ready access to any new or categorized distribution list we wished to develop. In addition, the new system would open the way for using a number of less expensive and faster specially contracted mail services and commercial air priority services.

Manual material would be shipped to books of record in each post of duty including subordinate offices. Because distribution lists would be coded to posts of duty, the need for district office redistribution of Manual Transmittals to area offices would be eliminated. The transmittals would be delivered in convenient individual envelopes, appropriately addressed and clearly marked as IRM material for speedy internal distribution by IRS mailrooms.

At present, most transmittals to a specific destination are shipped separately from each of the various printing contractors that print our Manual material. The fact that our proposed system would involve only one contractor and would allow combined shipments of multiple transmittals to a single destination opens up a host of quicker and less costly methods for shipping Manual issuances.

Instant Revisions

Because the IRM would be stored in a computer, any changes, revisions or updating of the Manual could be done quickly and efficiently. With a few keyboard strokes, the changes would be inserted in any part of the Manual, old or obsoleted material would be

deleted, and new pages would be printed out by the computer. Unlike other kinds of composition, electronic typesetting assures that print out pages are always identical to and as correct as the original inputs. Thus, time and cost of proofing revised pages would be cut to a minimum because only the new or changed material would need to be proofread for errors which might have occurred during keyboarding.

Topical Indexes

A major complaint of IRM users has long been the difficulty and amount of time required to find information in the huge Manual. Present "KWIC (Key Word In Context) Indexes" that preface some IRM chapters and parts are at best token guides having finding lists that are too generalized to be effective because they refer only to general headings. The new computerized looseleaf system would give the IRM, for the first time, comprehensive, cross-referenced, in-depth topical indexes which would pinpoint data to a specific page and even to a specific paragraph number on the page. The system would also have the capability of including historical data, in compact six-point type, at the end of each section, chapter and part of the Manual.

Fast Manual Handbooks

Some of the instructions and procedures that make up the Internal Revenue Manual are written specifically for certain employees; and, for their convenience and utility, the special instructions are issued as separate Manual Handbooks. Examples of this type of handbook are the Audit Reports Handbook, Exempt Organizations Master File Handbook, Handbook for Tax Auditors, Audit Technique Handbook for Estate Tax Examiners, Taxpayer Service Representative Handbook, Audit Technique Handbook for Excise Tax Agents, and Audit Technique Handbook for Internal Revenue Agents. Because these handbooks are used by employees every day at their desks or are carried in briefcases when visiting taxpayers, they are issued as separate looseleaf books in individual binders, independent of the main body of the IRM. Under the current system, the Manual Handbooks have the same kind of printing delays and revision problems as other Manual material.

The new looseleaf service system would produce Manual Handbooks routinely as needed and as easily and quickly as issuing Manual Transmittals. The handbooks would be printed and placed in the production line along with the other Manual material, proceeding to the bindery where the transmittals would finish as looseleaf pages for insertion into the IRM, and the handbooks would emerge as bound booklets or "non-fileables," as they are called in the trade. By taking advantage of the system's short production time, new or revised

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THE ARMY'S PENNY-WISE, POUND-FOOLISH PUBLICATIONS SYSTEM: A PRE--ETC(11)

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editions of the handbooks could be issued quickly as often as was necessary.

Instant Inventory

The current IRM system frustrates the use of any practical method for maintaining inventory sets of the Manual. An updated master set of the Manual, preserved by the Internal Management Division (PR:I) in the National Office, is the only complete and current one available as camera copy for printing extra sets when needed. And reprinting additional sets of the Manual, under the present system, represents a monumental task, involving great amounts of manpower, equipment, time and money, not to mention that the product is outdated when it is finally completed.

Under the proposed new system, reprinting additional sets of the entire Manual would be a relatively simple task. The new sets of the IRM could be reprinted quickly and easily in three ways. Reproducibles or paper plates of the IRM pages could be produced from the computer storage tapes at the rate of six pages per minute; or, if needed in another form, the entire 38,000 pages of the Manual could be reproduced on microfiche within two hours. The third method to reprint additional sets of the Manual would be simply to use the updated page negatives of the IRM, which the contractor would keep on file.

Other Advantages

Besides the advantages mentioned before, an electronically composed, commercially maintained IRM looseleaf service system would afford IRS a number of other fringe benefits. All parts of the Manual would be set in a uniform, easily readable typeface. It would be printed on convenient 6" x 9" size pages, contained in compact, easily handled binders. And, for the first time, the new system would make it possible for IRS to supply depository libraries with copies of the IRM.

Now that the Freedom of Information Act has made the IRM available to the public, a new IRS system would also result in a windfall of cost savings for the looseleaf service industry, and indirectly for IRS. To meet the provisions of the Freedom of Information Act, IRS would make copies of its IRM composition tapes available to the public at a nominal fee. Firms which maintain commercial IRM looseleaf

services for their subscribers would purchase the IRS tapes for a small fraction of what it would cost them to keyboard the Manual material on their own. These same firms, therefore, would take these composition cost savings into consideration when they bid on the contract for administering IRS' Manual looseleaf system. Thus, IRS would benefit from the lower competitive bid prices.

IRM Overhaul

Currently we are renumbering and reformatting into Manual style the ADP Handbooks for inclusion within the IRM where they belong. This 16,000-page set of Manual instructions and procedures has for a number of years existed separately and outside the IRM format because of its unique application solely to automated data processing. Because of the critical schedules associated with ADP Handbooks, they are not typeset and require special handling for printing and distribution. With a new IRM system providing the printing and distribution speed needed for ADP Handbooks, this body of ADP instructions could be easily reestablished as a regular working part of the Manual family.

ADP Handbooks would be the last of the Manual material to be printed in the 6" x 9" page format. Because many of them are printed in their entirety every year, unlike the rest of the Manual, we could implement them at anytime after the exhibits had been redesigned and considered for the 6" x 9" format.

Security Manual Material

Only a minimal percentage (much less than one percent) of the total content of the IRM is classified as security or limited access material. This confidential Manual material, kept separate in Law Enforcement Manuals (LEM), is excluded from the public access provisions of the Freedom of Information Act. As such, LEM material is clearly identified and printed within the Government under special control conditions. With the new looseleaf service system, Law Enforcement Manuals would continue to be printed within Government under the same controls they have now.

Would Change Manual Handling Procedures

The proposed system, as one would expect, will involve some changes in the procedures for preparing Manual material for publication. To eliminate issuing a temporary Manual Supplement and the subsequent pen and ink annotations, for example, originators may need to coordinate and prepare two, three or more transmittals instead of the one supplement.

The new system will also involve complete reprinting of various parts of the Manual on a periodic basis, never heretofore done. This, too, may require cooperation and additional preparations by originators.

Necessity For a Waiver

Earlier in this paper we showed how much time and money can be saved through the use of an integrated production facility. Likewise, it is similarly efficient to have the contracting and contract administration handled by one organization. While the GPO has authority and expertise in composition, printing and binding, it does not have the responsibility for many of the other major components of this publishing system.

The proposed IRM publishing system includes these functions :
1. information gathering; 2. original and editorial writing; 3. administrative review, clearance and approval; 4. indexing; 5. keyboarding for composition, information retrieval and indexing; 6. up-dating of the master file data base; 7. page composition; 8. information retrieval system maintenance; 9. printing and binding; 10. distribution to users; 11. inventory maintenance and reorder; and 12. total system review and follow-up.

All of these functions are interrelated and must be closely coordinated with the contractor so that no one function or combinations of functions can operate to the detriment of the total publishing system. Since all of the various functions are involved in the execution of the contract, it is imperative that these functions be controlled and monitored by those with the knowledge and organizational interest in the operation of the system. We feel that only IRS personnel span this total spectrum. GPO's authority is limited to only two of the major system functions (page composition and printing), while the IRS is responsible for the other 10 functions. To split the contracting and contract administration responsibilities between GPO and the IRS for this system would lead to unnecessary third-party transactions, make responsibilities ambiguous, and make vital coordination difficult, if not impossible. For these

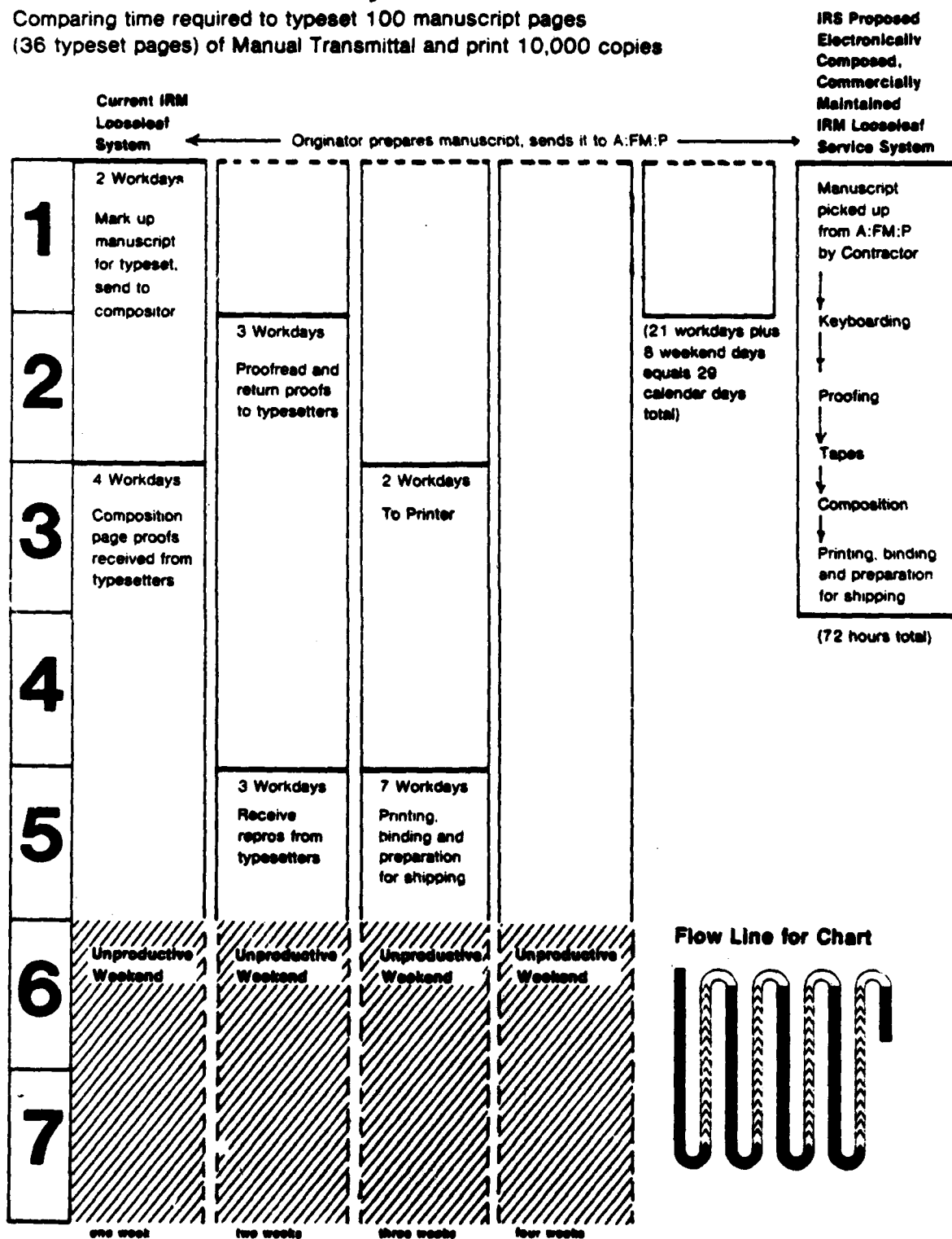
reasons we believe that IRS should be granted a waiver from the provisions of Title 44 requiring that the contracting for the page composition and printing be done through GPO.

A Final Word

The timing for establishing a new Manual system could hardly be more propitious: the technology to provide computerized preparation of type for printing and a data bank source for information retrieval programs is here; the adequate indexing potential inherent in computer operations is imperative to meeting the new Freedom of Information Act's requirement for quarterly indexing; reprinting the Manual will allow IRS to comply with the Title 44 requirement that copies of the Manual be made available in depository libraries; and the mounting problems and inadequacies of the present Manual system impend as a serious threat to IRS operations.

Comparison of IRS Proposed IRM Looseleaf System with Current IRM Looseleaf System

Comparing time required to typeset 100 manuscript pages
(36 typeset pages) of Manual Transmittal and print 10,000 copies



Cost Comparison of IRM System

Based on various FY-74 data gathered from available record sources and using parameters listed below to calculate estimates

	Approx. No. of Issuances Per Year	Present System			Proposed System			Cost Savings Per Year
		Comp	Printing	GPO Surcharge	Comp	Printing	GPO Surcharge	
Manual Transmittals (4800 printed pages including blanks) Average quantity of 4750 copies	650	\$81,000	\$183,000	\$17,000	\$23,000	\$183,000	-0-	\$75,000
Manual Supplements (1,000 printed pages) Average quantity of 12,500 copies	165	Camera Copy	\$67,000	\$4,000	\$2,000	\$11,000	-0-	\$58,000
ADP Handbook Transmittals (17,000 printed pages) Average quantity of 2900 copies	360	Camera Copy	\$308,000	\$20,000	\$13,000	\$126,000	-0-	\$189,000
ADP Handbook Supplements (450 printed pages) Average quantity of 6600 copies	40	Camera Copy	\$35,000	\$2,000	\$2,000	\$17,000	-0-	\$18,000
Totals	1215	\$81,000	\$593,000	\$43,000	\$40,000	\$337,000	-0-	\$340,000

Parameters

- 1) Changes for updating estimated to be an average of 10 percent.
- 2) Blank pages are estimated to be approximately 10 percent of total printed pages

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